

The Pennsylvania State University
The Graduate School
Department of Learning and Performance Systems

**THE INSTRUCTIONAL EFFECTS OF KNOWLEDGE-BASED
COMMUNITY OF PRACTICE LEARNING ENVIRONMENTS
ON STUDENT ACHIEVEMENT AND KNOWLEDGE
CONVERGENCE**

A Dissertation in
Instructional Systems

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2010

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ABSTRACT

The purpose of this study was to develop and test an online community of practice learning environment that incorporates specific knowledge building principles to promote knowledge convergence and to reify tacit knowledge through storytelling, shared work related experiences and ideas through online discussions, and to develop best practices that will increase job performance and customer survey scores. Specifically, this study investigated the effectiveness of a knowledge-building community of practice learning environment on job-related knowledge, convergence, and on-the-job performance of study subjects. A community of practice is defined as a group of individuals who share experiences, learn together, and engage in regular interaction through discussion and knowledge sharing activities relevant to their domain. Through interaction, individuals influence one another to engage in the knowledge convergence process. It was anticipated that learners in the knowledge-based community of practice learning environment would have a higher level of knowledge convergence than the self-paced learning environment.

This study employed a sample selected from 61 dealership Service Advisors. The study was designed to examine learning within an authentic, contextually rich, real-world environment. Because the experimental groups were self-selected, a quasi-experimental study was used. The independent variables were the self-paced online course and the online knowledge based CoP learning environment. The self-paced online learning environment presented the course content without student or instructor interaction. The CoP learning environment contents were identical to the self-paced course however; they contained actual customer-based scenarios in the form of discussion questions for students and instructor to interact. The dependent variables were the pre and posttests, essay assessments, and customer survey scores. The statistical analysis of the

pretest posttest results for the two groups indicated significantly better scores in the knowledge-based community of practice learning environment. Analysis of essay assessment responses confirmed a higher-level knowledge convergence in the knowledge based community of practice learning environment.

The results of this study suggest that knowledge convergence occurred in both environments; however, participants in the knowledge-based community of practice experienced a higher level of knowledge convergence. This result suggested that collaboration and sharing common knowledge in a community of practice promotes knowledge convergence.

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ACKNOWLEDGEMENTS

First and foremost, my sincerest gratitude goes to Dr. Susan Land, for her guidance, mentorship, encouragement, warm personality, and emotional support throughout my Ph. D studies. Her visionary thoughts and valuable advice were incredibly helpful for me and so much appreciated. I would like to express my appreciation to my committee members, Dr. Roy Clariana, Dr. Dave Popp and Dr. Brian Smith, for their insights and suggestions in the preparation of this thesis. A special thank you to Dr. Clariana for his guidance, kind concern, and encouragement in the analysis of the research data. To Dr. Dave Popp, my special thanks for his mentorship in the areas of quantitative analysis, and to Dr. Brian Smith a special thanks for his invaluable ideas that helped immensely in completing the research.

On a personal note, to my wonderful loving husband, Dr. Robert Amason, and my two truly amazing sons, Jason and JD, have earned my deep gratitude for their solid support, trust, sacrifice, and patience while completing my research. Bob, I truly believe I could not have achieved this goal without your love, encouragement, understanding, and invaluable insights. I love you more than you know. Jason, thank you so much for your extraordinary understanding and patience for your young age during my thesis work. To JD, in the beginning of my studies, thank you for being so kind to make my trips to University Park so memorable while you were a student at Penn State. I love you both.

Finally, this work is dedicated to my father, Gordon Draper, and my mother, Linda Draper, who encouraged me at a very young age to reach for the stars. I could not have come this far without their unconditional love and support. Thank you and I love you both.

Chapter 1

INTRODUCTION

Today, knowledge is viewed as a commodity, which enables organizations to successfully compete on a global scale. Organizations value an individual's knowledge as evidenced by corporate use of knowledge management systems to efficiently capture and catalog explicit knowledge. Cook and Brown (1999) argue that the focus on organizational knowledge, and management of knowledge, is based on a traditional understanding of the nature of knowledge. The increasing proliferation of technology and the Internet have enabled individual and group learning opportunities to transform tacit knowledge into explicit knowledge through online communities of practice.

Tacit knowledge is the result of knowing and utilizes explicit knowledge through practice. Tacit knowledge is present in work and workplace learning and is described as 'know how' transferred by storytelling, conversation, and narrative. Orr's (1999) research illustrates the importance of tacit knowledge to organizations where Xerox's formal training programs and instruction manuals failed to provide relevant information for the service technicians to perform their jobs. In such instances, acquiring a tool (knowledge) is not the same as being able to use it (Brown and Duguid, 2001).

Explicit knowledge is easily articulated and takes the form of documents, websites, customer relationships management (CRM) databases, and manuals that can be shared, and transferred to others. Corporations construct explicit forms of knowledge such as formal procedures, manuals, training and job descriptions that in most instances do not relate to authentic employee practices. Cook and Brown, (1999) suggest that explicit knowledge is regarded as formalized and can be documented. They further argue that focusing on an individual's explicit

knowledge is insufficient; rather, it is important to focus on individual and group tacit and explicit knowledge contexts in organization learning.

In the workplace, explicit knowledge is used as a management tool to influence and control organizational knowledge. Orr's (1999) research study of Xerox service technicians highlights explicit knowledge that lacks authenticity. While manuals are helpful to document knowledge for the organization, explicit knowledge is dependent upon tacit knowledge to be truly effective. There is a need for organizations to go beyond the documentation of formal, explicit knowledge to reveal and reify the 'knowing' dimension of knowledge.

Mezirow's transformative learning theory suggests that knowledge is neither tangible nor explicit, in the respect that it is not sitting on a shelf waiting for someone to grasp it, but rather, it occurs from within. Tacit knowledge is personal knowledge that individuals know through practice but do not necessarily communicate. Michael Polanyi (1967) stated "we can know more than we can tell" (p.4). Tacit or implicit knowledge has an inarticulate component that is the result of how individuals acquire this type of knowledge which is mostly contextualized, personalized, and acquired through practice and experience. The challenge for organizations is to focus on the relationship between explicit and tacit knowledge building so that an individual's or group's experiences are reified or hardened into a more explicit form. "Harnessing this innovation calls for organizational and technological infrastructures that support the interplay of knowledge and knowing" (Cook & Brown, p. 381).

Orr's (1999) research of Xerox service technicians exemplifies the interplay of knowledge and knowing. Orr's analysis of employee authentic practice reveals situated learning through storytelling by means of narration, collaboration, and social construction. Brown, Collins, and Duguid (1989) suggest that culture dictates activities of a domain by arguing that it is not possible to use a tool appropriately without understanding the community or culture in which it is used.

Storytelling is one technique that is used to create a communal understanding of a situation. Through the process of informal storytelling, individuals narrate the facts of a situation that is situated within their environment satisfying Marsick and Watkin's (1999) first condition to discern tacit knowledge. Collaboration occurs through the production of individual narratives that create communal knowledge. Storytelling prompts the process of critical reflection and a change in meaning schemes. Social construction is the sense making of contradictory and bewildering information that is grounded in an individual's perspective. As a result of the sense-making process, the individual develops his or her own professional identity, and contributes to the development of the community. Collaboration is fundamental to the knowledge construction process called convergence. Jeong and Chi (2006) suggest that knowledge convergence is the process by which two or more people share mutual understanding through social interaction. Jeong and Chi (2006) further argue that convergence occurs because the reciprocal nature of collaboration leads to an increased similarity in the cognitive representations of the group members.

A knowledge-based community of practice is a type of learning environment intended to codify and convert valuable, tacit knowledge into explicit knowledge. The reification process results in a collection of permeable best practices that can be shared by others in the community of practice. Knowledge based CoPs are the vehicle in which its passengers are able to propel the advancement of collective knowledge to develop individual skills and practices by achieving full participation of the members. The following section details the characteristics of knowledge-based communities of practice.

Knowledge-Based Communities of Practice

Social anthropologist, Jean Lave and social learning theorist Etienne Wenger first introduced the term community of practice (CoP) in 1991 to describe a group of individuals who share similar interests and through interaction and activities collectively develop new practices and knowledge. Communities of practice are not a new phenomenon; they have been in existence for many centuries. Lave suggests that the “relationship between human thought, human action, and the environment is so tightly interwoven that the mind cannot be studied independently of the culturally-organized settings within which people function” (Hewitt & Scardamalia, 1998, p. 75). Current CoPs exist within organizations and are tasked with the integration of knowledge within that organization. A CoP transcends explicit knowledge and skill associated with an activity or task, and members engage in interaction and collaboration over a period of time (Lave & Wenger 1991). Kimble and Hildreth (2005) suggest that the relationships which evolve between members are the fundamental element of CoPs and are vital to understanding the softer aspects of knowledge.

Communities of practice are organic in that their membership grows and thrives on interaction. Sustaining and growing the community is the key to success. A knowledge building community is “a social activity system that targets communal knowledge creation supported by collective and sustained idea improvement” (Zhang, Scardamalia, Lamon, Messina, & Reeve, 2006, p. 119). Members in a knowledge-building community have a dual role: to collectively and individually take the initiative for knowledge advancement. Organizations benefit from the conversion of tacit knowledge into explicit knowledge. However, explicit knowledge is not sufficient for organizations to be competitive in a global market. Successful organizations that share the knowledge-based view (KBV) focus efforts on the continuous coordination of individual knowledge into the collective knowledge. Organizational knowledge integration

means mechanisms through which “knowledge of many individuals can be deployed in the production of a particular product” (Grant, 2002, p. 137). A knowledge-building community is less defined by a “formal association or physical proximity but a commitment among its members to invest their resources in the collective upgrading of knowledge” (Hewitt & Scardamalia, 1998, page 82).

A community of practice that is designed explicitly around knowledge building entails several key principles (Zhang et al., 2006): real ideas, authentic experiences, community knowledge, constructive uses of authoritative sources, and knowledge building discourse. These principles provide empirically based guidelines for the design of learning environments that support goals and elements of knowledge-based communities of practice. Knowledge-building activities are not an inherent characteristic of communities and require facilitation for individual members to achieve deep understanding through knowledge convergence and the collective advancement of knowledge. The dynamics of five knowledge-building principles are discussed below.

Real Ideas, authentic Problems. This principle brings to light the interaction between concrete and conceptual artifacts. Community members interact about concrete, real situations that influence their daily lives by creating and reflecting on ideas collectively using empirical, conceptual artifacts to frame discussions.

Idea Improvement. Using authentic problems, participants fluctuate between concrete, empirical and abstract, conceptual frameworks to foster idea improvement activities. The notion that there is always room for improvement creates an “awareness of what is known and what issues, problems, challenges and so forth lie beyond drives people to seek new information and generate new understanding” (Zhang et al., 2006, p. 120). Communities of practice provide a risk-free environment for community members to work together to foster dynamic interactions and enable the organic community to thrive. Scardamalia coined the phrase, “rise above” to

describe the complex interplay between what is known and what needs to be known. Within a CoP, participants explore new experiences and concepts in an attempt to uncover information while “rising above.” Participants’ ideas are stored collectively in discussion threads, wikis, or electronic documents that can be used as a foundation for idea improvement.

Community Knowledge Building. The community knowledge building principle “requires attention to what is of benefit for personal knowledge advancement as well as what will benefit the community as a whole” (Zhang et al., 2006, p. 120). The interchange between the individual and community is vital for the advancement of knowledge. Individuals become more adept or competent at a skill by “borrowing” the collective knowledge to construct and refine personal understanding. New and improved knowledge is shared throughout the collective. The dynamic continues as the community identifies weaknesses, possible solutions, and defines new problems.

Constructive Use of Authoritative Resources. Authoritative resources promote continuous cycles for improvement by informing and fostering new ideas within the community which “...addresses the dynamic process involving both local community resources and external authoritative resources” (Zhang, et al., 2006, p. 121). Individual knowledge integration utilizes authoritative resources constructively by the exchange of information, experiences, and best practices within the community. Shared knowledge, experiences, artifacts, and best practices are combined and coordinated with authoritative resources to improve the collective knowledge.

Knowledge Building Discourse. This principle embodies the epistemic agency, community knowledge, and idea improvement principles, which are characterized by the generation of explanatory questions (Zhang, et al., 2006). Engaging in knowledge-building discourse allows individuals to refine and redefine knowledge to effectively transform collective knowledge. “Through sustained and collaborative work members ‘rise above’ to increasingly more coherent and sophisticated conceptualization.” (Zhang, et al., p. 121)

Statement of the Problem, Purpose, and Research Questions

Research on the design and development of online communities of practice is still emerging. Among the issues is that “the evolutionary pattern of CoP development is poorly understood” (Schwen & Hara , 2003, p. 262). Schwen and Hara suggest that communities of practice are fully functioning when they evolve over time, which makes them difficult to study. Questions also have been raised about the role of knowledge in communities of practice. Researchers have varied interpretations of knowledge, particularly with regard to knowing in practice, and hence is worth studying. Schwen and Hara (p. 263) state “knowledge and knowing epistemologies are two distinct processes that require different designs to support optimal community learning.”

The purpose of this study was to investigate the effectiveness of varied knowledge building principles, i.e., idea improvement, real ideas, authentic sources, and community dialog when used in an online community of practice learning environment to promote the convergence, reflection, and sharing of knowledge that can be reified and incorporated into a learning organization’s practices.

This study investigated the following research questions:

Q1. What are the effects of learning environment design (self paced vs. knowledge-building community) on pre and posttest scores of declarative knowledge?

Q2. What are the effects of learning environment design (self-paced or knowledge-building community) on employee’s knowledge convergence as measured by criterion essay assessment?

Q3. What is the impact of learning environment design (self-paced or knowledge-building community) on individual on-the-job performance, as measured by customer survey performance indicators?

Definitions

Collaboration – two or more individuals exchange shared and unshared prior knowledge through interaction to create shared understanding. Collaboration is a situation in which learners interact in a collaborative way. (Dillenbourg, 1999)

Community of Practice – a group of individuals who share similar interests and through interaction and activities collectively develop new practices and knowledge. There are three elements that make up a CoP: domain, community and practice (Wenger, 1991).

Convergence – is the product of collaboration by which two or more people share mutual understanding through social interaction to arrive at new knowledge.

Explicit knowledge – known as data, and can take the form of documents, or declarative information. "knowing that" (Brown and Daguid, 2001).

Implicit knowledge – is unspoken knowledge and is the result of knowing which is based upon an individual's experiences, contextualized, personalized and acquired through socialization and practice. "know how" (Brown and Daguid, 2001).

Tacit knowledge – is unspoken knowledge and is the result of knowing which is based upon an individual's experiences, contextualized, personalized and acquired through socialization and practice. "know how" (Brown and Daguid, 2001). Tacit knowledge is personal knowledge that individuals know through practice but do not necessarily communicate. Knowledge that cannot be told (Polanyi, 1967).

Reflective Learning – is the process of internally examining and exploring an issue of concern, triggered by an experience, which creates and clarifies meaning in terms of self, and which results in a changed conceptual perspective (Boyd and Fales, 1983).

Chapter 2

REVIEW OF LITERATURE

Today, organizations are changing their perspective regarding the delivery, management, and acquisition of knowledge to compete effectively in the global market. Traditional methods of corporate training center on the importance of the instructor and formal, concrete knowledge structures. Over the past decade, organizational knowledge dissemination and management has shifted focus from the instructor/organization-led paradigm to the learner/community collaboration paradigm through the creation of knowledge building learning environments known as Communities of Practice (CoPs). This chapter will explore the historical literature of CoPs, the dimensions of knowledge, theoretical views on convergence, informal learning, storytelling, apprenticeship, the social nature of learning, and Mezirow's work on transformative learning. We will then shift our attention to the application of knowledge- building principles, organizational knowledge management frameworks, and instructional-design strategies designed to promote knowledge convergence to reify valuable tacit knowledge using an online CoP learning environment.

Communities of Practice

Social anthropologist, Jean Lave and social learning theorist Etienne Wenger first introduced the term community of practice (CoP) in 1991 to describe a group of individuals who share similar interests and through interaction and activities collectively develop new practices and knowledge. Lave suggests that the "relationship between human thought, human action, and the environment is so tightly interwoven that the mind cannot be studied independently of the culturally organized settings within which people function" (Hewitt & Scardamalia, 1998, p. 75).

As the first knowledge-based social structures, CoPs are not a new phenomenon. They have been in existence for many centuries. Lave and Wenger (1991, p. 47) described a CoP as “a set of relations among persons, activity and world, over time and in relation with other tangential and overlapping communities of practice.” Learning is in the relationship between people and the environment as evidenced by impressionist painters in the late 19th century who would frequently gather in coffee houses and chat about new painting techniques, style and medium. “A community of practice involves much more than the technical knowledge or skill associated with undertaking some task. Members are involved in a set of relationships over time” (Lave & Wenger, p. 98). Socialization among members is a key component to the success of a CoP. “The central feature of CoPs is the relationships that develop between their members; it is here that the key to understanding the softer aspects of knowledge can be found” (Kimble & Hildreth, 2005).

Characteristics of CoPs vary, however, there are three essential elements: domain, community, and practice (Lave & Wenger, 1991). The domain of knowledge focuses on a shared interest that relates to members’ interests and provides the community value and purpose. “The domain of the community is the *raison d’être*” (Wenger, McDermott, & Snyder, p. 31). Members’ shared interest provides the motivation to discuss and share what is most important to the community and guides the way knowledge is organized. “A domain is not an abstract area of interest, but consists of key issues or problems that members commonly experience” (Wenger, McDermott, & Snyder, p. 32). The domain is the center of gravity though its boundaries are permeable due to shifts in member focus. “Over time, they develop a unique perspective on their topic as well as a body of common knowledge, practices and approaches. They also develop personal relationships and established ways of interacting” (Wenger, McDermott, & Snyder, p. 5).

Wenger, McDermott and Snyder (2002) argue that the second element, community, is “critical to an effective knowledge structure” (p. 34). A community is defined as a group of individuals who share experiences, learn together, and engage in regular interaction through discussion and knowledge sharing activities relevant to their domain. The community is the social fabric of learning where mutual respect, goodwill, trust, and communal identity are intertwined to build interpersonal relationships that promote a sense of belonging. Through regular interaction, members begin to increase collective domain knowledge and acquire individual knowledge and skills. “Over time, they build a sense of common history and identity” (Wenger, McDermott, & Snyder, 2002 p. 35). Bender (1982, p. 7) suggests the following about community:

...community involves a limited number of people in somewhat restricted social space or network held together by shared understandings and a sense of obligation. Individuals are bound together by affective or emotional ties rather than perception of individual self-interest. There is a ‘we-ness’ in a community; one is a member.

At the time, Bender viewed location as a concern for community members; however, today’s technological advances have broken down the requirement of locality and the concept of community implies an emotional meaning transcending physical proximity. Today, it is not a requirement that members work together on a daily basis in the same place to develop community. The Internet has broken down physical barriers by utilizing virtual environments such as social networking sites, Web 2.0 tools, webinars, instant messaging, blogs, and Learning Management Systems that enable CoPs to thrive.

The third element, practice, is the engine that drives knowledge, fuels critical reflection, and fosters social identity. “Practice denotes a set of socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance and accountability” (Wenger, McDermott, &

Synder, 2002, p. 38). Practice is steeped in the past however, directed toward the future. Members share real world experiences, challenges, stories, tools, and techniques to build and apply new knowledge through interaction and collaboration. Membership implies a level of competence or a baseline of common knowledge as the foundation for which members are able to use their individual perspectives to build knowledge and effectively work together. The community uses activities like brainstorming and storytelling to create new processes, and tools through ongoing interactions for validation of new knowledge. It is important for members to share implicit and explicit knowledge and experiences so that individual members construct their own knowledge. Essentially, a community operates in a living curriculum. Lave argues that apprenticeship is a learning model. She illustrated her apprenticeship theory by examining five professions that traditionally build knowledge through legitimate peripheral participation, not formalized training. The five case studies include midwives, tailors, navy quartermasters, alcoholics and butchers. Lave and Wenger suggests the learning that occurred in these CoPs is a form of “socialization into a community, where the newcomer gradually becomes a legitimate member of the community by learning the practice, language and conventions of the community through interaction with its established members” (Kimble & Hildreth, 2005, p. 3). In this sense, “learning is viewed as a situated activity and has as its central defining characteristic a process called legitimate peripheral participation (LPP)” (Lave & Wenger, 1991, p. 92). Situated learning is a theory of knowledge acquisition whereby the learner gradually acquires knowledge and skills learned from experts in the context of day-to-day activities, social interaction, and collaboration. Within the CoP there are members at different levels of expertise. Members at lower levels of expertise, or novices, move from the periphery to become more involved as they interact and acquire new knowledge that results in the development of a social identity. There is an important connection between individual learning and social identity. Within a CoP, members learn by acquiring new knowledge through a lens of how the member sees the world, based on beliefs and

past experiences, and how others see the member. Brown and Duguid (2001) suggest that what individuals learn always and inevitably reflects the social context in which they put it into practice.

Identities are developed through work practice resulting from participation in the acquisition of knowledge and socialization. For example, Renaissance masters such as Leonardo da Vinci employed apprentices who had learned the craft through situated activities and over time mastered the craft as they were mentored by the master and other more experienced apprentices. In da Vinci's studio, all members of his guild accepted the apprentices as qualified creating legitimacy as members. The apprentices performed peripheral tasks, or practice, and as they became more proficient in specific areas and techniques, they were given more important tasks to accomplish. "Cognitive apprenticeship methods try to enculturate students into authentic practices through activity and social interaction in a way similar to that evident and evidently successful in craft apprenticeship" (Brown, Collins, & Duguid, 1989, p. 37). da Vinci's apprentices participated in the community that fostered social identity by acquiring knowledge through 'doing' rather than knowing. Lave suggests that the LPP process is fluid; some apprentices may be more skilled or central in one task gaining recognition and acceptance from others within the group and located on the periphery in other tasks. Brown and Duguid (2001) suggest that learning, in all, involves acquiring identities that reflect both how a learner sees the world and how the world sees the learner.

Knowledge Convergence

Wenger, McDermott, and Snyder (2002) define a community as a group of individuals who share experiences, learn together, and engage in regular interaction through discussion and knowledge sharing activities relevant to their domain. Through interaction, individuals influence

one another to achieve knowledge convergence. Jeong and Chi (2006) define convergence as the outcome of a process by which two or more people share mutual understanding through social interaction. DeLisi and Goldbeck (1999) state that learners who collaborate influence one another when learning together. Knowledge convergence is the product of collaboration. CoP community element directly influences the outcome of knowledge convergence. A community of practice consists of a group of people who share prior knowledge and experiences as well as possessing prior unshared knowledge. Collaboration with community members fosters the exchange of shared and unshared prior knowledge so that the community becomes similar in knowledge representations and group mental models. Fischer and Mandl (2005) state that learners who converge in knowledge benefit more from collaborative learning than learners who do not engage in collaboration. One goal of a CoP is for individuals to converge or become similar in thought through socially shared meaning.

Situated learning is a theory of knowledge acquisition whereby the learner gradually acquires knowledge and skills learned from experts in the context of day-to-day activities, social interactions and collaboration. Knowledge convergence is evident in communities of practice, specifically, the knowledge learned from others. Armin Weinberg's (2007) research conceptualizes the similarity of knowledge prior to collaborative learning activities as shared prior knowledge. CoP practice element defines a set of common strategies and shared values that determines the way a process or skill is performed in the workplace. CoP members intuitively share common knowledge, concepts, and experiences to build knowledge. As each member contributes to the community, others analyze and build on ideas. Scardamalia's knowledge-building principles, in particular idea improvement, is evident in the outcome of knowledge convergence whereby individuals share the knowledge by contributing through dialog so that the others can integrate knowledge and add a new idea or element to improve on other's knowledge. Knowledge convergence in action is evident in the 'transaction' of information. Teasley (1997)

states that transactivity is the degree to which learners refer and build on others' knowledge contributions, and has been found to be positively related to individual knowledge acquisition in collaborative scenarios. For example, members of daVinci's apprentice group share some common knowledge about painting before joining the school. Additionally, da Vinci's apprentices possess their own unique knowledge or skills that other apprentices do not possess which is defined as unshared prior knowledge. Collaboration is the action among apprentices that fosters the sharing of an individual's knowledge with others in the group to achieve knowledge convergence.

Weinberger's (2007) research suggests that knowledge convergence can be measured quantitatively. The analysis of knowledge convergence considers the dependency on how and what is being assessed. Evidence of convergence is measured in a meaningful context not by declarative knowledge tests. Assessing learners in the application of concepts within, complex contexts such as case studies or reality-based scenarios is an appropriate measure of an individual's knowledge convergence.

Case-Based Instruction

Case-based instruction (CBI) focuses on reasoning skills that link theory to practice. CBI enables students to experience authentic problem-based scenarios within a particular context. This instructional approach provides the student with the opportunity to apply their prior knowledge and experiences in solving real world problems. Cobb (1996) suggests that case-based pedagogy places the student in an active role by encouraging teamwork and community dialog. Cobb's case-based instructional design model illustrates that the construction of knowledge through conceptual activity and the process of social interaction and collaborative

activity fosters reasoning skills to influence learning outcomes. Essentially, the student assumes the role of problem solver and is an active participant in the transmission of information.

Williams (1992) links CBI to cognitive apprenticeship and anchored instruction that provide direction for teaching in contextualized ways. Cognitive apprenticeship, similar to Lave's apprenticeship theory, places emphasis on the social interaction and traditional apprenticeships. Anchored instruction provides an instructional strategy for posing problem contexts that "enables students to use knowledge and conditions for its use" (Williams, 1992 p. 367). Cognitive apprenticeship and anchored instruction provide the instructional framework for linking practice to theory and increase meaningful learning. CBI has been accepted as an effective instructional design strategy in the law, business, medicine, and teacher education. As an instructional approach, CBI places more emphasis on the student than traditional learning environments. The student is no longer passive but rather an active participant in the learning process by placing the responsibility of many tasks such as gathering information, developing plans, critical thinking, generating and evaluating solutions to problems on the student. CBI can be used to encourage teamwork, collaboration and reflective thinking.

Mayo (2001) conducted a study that utilized CBI for increasing conceptual application in a college level introductory psychology course. The students were presented lecture instruction to provide the foundation of theoretical perspectives and concepts. Students in the CBI condition were given a hypothetical case narrative during class and the opportunity to reflect and discuss the linkage of the case to theory. The results of the study supports the view that CBI developed students' application of reasoning skills and effectively connected conceptual knowledge with authentic scenarios.

Literature supports the opinion that CBI is more motivating than traditional learning strategies, foster better knowledge transfer, critical thinking and problem solving abilities. A few researchers suggest that CBI does not appeal to all students. Ertmer, Newby, and MacDougall

(2004) conducted an exploratory study that examined students' self-regulation levels and CBI to determine patterns of responses and approaches to CBI. Self-regulation is defined as the ability and motivation to implement, monitor, and evaluate various learning strategies for the purpose of facilitating knowledge growth (Ertmer, 1995). This study focused on how students respond to and approach learning from case-based level of instruction to determine if CBI is an effective instructional design strategy for all students.

Informal Learning

Learning occurs within the practice element of a CoP and takes the form of informal, incidental, and social learning. By definition, formal learning is highly structured and is controlled by an institution or organization. Conversely, informal learning is somewhat structured and controlled by the learner. "Informal learning takes place whenever people have the need, motivation, and opportunity for learning" (Marsick, Watkins, 1999, p. 28). Incidental learning is a derivative of an activity though an individual might be unaware of it. "Informal learning includes all learning that occurs outside the curriculum of formal and non-formal educational institutions and programs" (Schugurensky, 2000, p. 2). Schugurensky suggests that there are three forms of informal learning that fall into two main categories; intentionality and consciousness. The first form of informal learning is self-directed learning and refers to undirected learning that is not initiated by an educator.

Self-directed learning is initiated by the learner and therefore intentional. In addition, the learner is conscious that he or she has learned something fulfilling the two criteria. The second form of informal learning is incidental learning that occurs as a result of a learning experience that was unintentional. On occasion, the learner is aware of incidental learning making this form of informal learning unintentional and conscious. The third form of informal learning is referred

to as socialization. Schugurensky (2000) suggests that socialization is focused internally and can be likened to tacit knowledge or the “internalization of values, attitudes, behaviors, skills, etc. that occur during everyday life” (p. 4). The socialization form of informal learning is neither intentional nor conscious and can be transformative “when it is intentional and conscious through a cognitive process of retrospective recognition” (Schugurensky, 2000, p. 6).

Marsick and Volpe (1999) suggest that informal learning is incorporated into daily activity and is not deliberate, but rather influenced by chance. Cseh, Watkins and Marsick (1999) developed a model for fostering informal and incidental learning that is grounded in the theories of Dewey (1938), Argyris and Schön (1974, 1978), and Mezirow (1991). Cseh, Watkins and Marsick suggest that individuals are constantly learning through daily experiences within a given context. When an individual is presented with a new experience, it may present a challenge to existing beliefs, or way of thinking. “With each new insight, they may have to go back and question earlier understandings” (Marsick & Watkins, 1999, p. 29). Individuals attempt to analyze a new experience by comparing it to “prior experiences to identify similarities or differences and use their interpretation to make sense of the new challenge” (Marsick & Watkins, 1999, p. 30). Interpretation of the situation enables the individual to make choices about possible solutions. Once the solution is acted upon, an individual is able to analyze the solution and determine future actions. Marsick and Watkins suggest three conditions to enhance informal learning. The first condition is to use critical reflection to discern tacit knowledge. The second condition is to promote a proactive stance within an individual to identify solutions and the awareness to learn new skills to implement these new solutions. The third condition is to encourage resourcefulness to look beyond a narrow range of solutions.

Informal learning occurs in the practice element of a CoP. Orr’s (1999) research of Xerox service technicians exemplifies the divergence between theory and authentic practice. Corporations construct explicit forms of knowledge such as formal procedures, manuals, and

training, which in most instances do not relate to authentic employee practices. Orr's analysis of employee authentic practice reveals situated learning through storytelling by means of narration, collaboration and social construction. There is a direct connection between storytelling and knowledge construction which is used to create a communal understanding of a situation. Jeong and Chi (2006) suggest that the Xerox service technicians in Orr's study hold community memory known as common knowledge. Through the process of informal storytelling individuals narrate the facts of a situation that is situated within their environment satisfying Marsick and Watkin's (1999) first condition to discern tacit knowledge. Collaboration occurs through the production of individual narratives that create communal knowledge. Storytelling prompts the process of critical reflection resulting in a change in meaning schemes or knowledge convergence. The storytelling process that incorporates critical reflection through dialog contributes to the development of practical knowledge. Social construction is the sense making of contradictory and confusing information that is grounded in an individual's perspective. The reflection process requires an individual to become self-aware, to evaluate past experiences and existing beliefs and practices which causes self doubt. As a result of the sense-making process, the individual develops his or her own professional identity, contributes to the development of the community, and satisfies Marsick and Watkins' second and third conditions to enhance informal learning by identifying solutions, learn new skills to implement solutions, and being resourceful in the development of solutions to enable tacit knowledge to become explicit.

CoP learning environments promote the activity of reflective learning through storytelling. CoPs consist of groups of people who share similar interests and through social interactions. Storytelling and reflection collectively develop new practices and knowledge. McDrury and Alterio (2002) developed a five stage Reflective Learning through Storytelling Model that is grounded in Moon's (1999) Map of Learning theory. McDrury and Alterio suggest that storytelling is a learning tool that utilizes an individual's beliefs, past experiences, and

feelings to influence how and what an individual learns. The model identifies five key stages of the storytelling process: story finding, storytelling, story expanding, story processing, and story reconstruction. The authors argue that deep learning occurs within the story processing stage where interaction with others and reflective activity or critical reflection takes place. Tellers and listeners share feelings and engage in reflective questioning which directly impacts the acquisition of new knowledge. The final stage, story reconstructing, has theoretical underpinnings with Mezirow's perspective transformation. In this stage, tellers and listeners are aware of the critical reflection process and evaluate the stories to determine potential solutions or new perspectives through thoughtful, meaningful, and constructive dialog.

Tacit/Explicit Knowledge Dimensions

If a person reads the repair manuals for a given vehicle and offers to perform a transmission repair on your vehicle, you would probably decline the offer. When an automotive technician repairs vehicles, he or she does not exclusively use the knowledge from the manuals they have read. Instead, the technician attends hands-on training, reviews the vehicle repair history, inquires about the driving habits of the owner, and reviews diagnostic readings before diagnosing and repairing the vehicle. These activities coupled with the explicit knowledge found in textbooks and training manuals enable the technician to develop and fine tune his or her expertise. "The knowledge of experts is an accumulation of experience – a kind of residue of their actions, thinking, and conversations" (Wenger, McDermott & Snyder, DATE, p. 9). The technician repair scenario is an example of the interplay between two dimensions of knowledge: tacit and explicit.

Explicit knowledge is easily articulated and takes a "hard" form such as documents, websites, customer relationships management (CRM) data, and manuals that can be shared, and

transferred to others within a group or organization. In the workplace, explicit knowledge is used as a management tool to influence organizational knowledge. While these tools are helpful to document knowledge for the organization, explicit knowledge is dependent upon tacit knowledge to be truly effective. Mezirow's (1991) transformative learning theory suggests that knowledge is neither tangible nor explicit, in the respect that it is sitting on a shelf waiting for someone to grasp it, but rather, it occurs from within and individual. Tacit knowledge is personal knowledge that individuals possess but do not necessarily communicate. Michael Polanyi (1967) stated that "we can know more than we can tell" (p. 4). Tacit or implicit knowledge has an inarticulate component that is the result of how individuals obtain this type of knowledge, which is mostly contextualized, personalized, and acquired through practice and experience and socialization.

Tacit knowledge puts explicit knowledge into practice. Tacit knowledge is present in work and workplace learning and is described as 'know how' transferred by storytelling, conversation, and narrative. Orr's (1999) research illustrates the importance of tacit knowledge to organizations. The Xerox's formal training programs and instruction manuals failed to provide relevant information for the service technicians to successfully perform their jobs. "It is quite possible to acquire a tool but to be unable to use it" (Brown & Duguid, 2001, p. 33). The point of Orr's study illustrates the importance of the 'know how' or tacit knowledge, "to use a tool involves far more than can be accounted for in any set of explicit rules" (Brown and Duguid, p. 33). Instead, such activities are framed by a set of cultural assumptions and practices (Brown, Collins & Duguid (1989). It is challenging to use a tool appropriately without understanding the community or culture in which it is used.

Enactivism is the co-emergence of the knower and the environment. Fenwick (2001) postulates that enactivism unites the individual and context so that the two systems are inseparable. Conversation and storytelling are examples of the co-emergence of knower and environment. The act of conversation engages individuals through interactions and behaviors that

facilitate collective knowledge building. Lave's (1991) work with situated cognition and Fenwick's enactivism theory are similar in their components: cognition and context. Situated cognition theory is grounded in psychology and explains how an individual develops by becoming a more active participant in a community of practice. Enactivism, on the other hand, focuses on the collective and is grounded in biology that suggests "knowing cannot be understood except in terms of systemic co-emergence: each participant understandings are entwined with the others', and individual knowing co-emerges with collective knowing" (Fenwick, p. 249). "Enactivists explore how cognition and environment become simultaneously enacted through experiential learning" (Fenwick, p. 47). The explanation of enactivism sounds eerily like a concept taken straight from the television series *Star Trek: The Next Generation's* the "Borg" episode.

The collective knowledge of a CoP is an amalgamation of situated learning and co-emergence of knowledge that can be attributed to tacit knowledge. The process of legitimate peripheral participation (LPP) in situated cognition promotes the dissemination of an individual's tacit knowledge through interactions and practice. In this instance, tacit knowledge becomes more explicit as members practice and interact with one another to build collective knowledge. Enactivism theory views tacit knowledge or collective understanding to be intertwined with a code of conduct or collective behavior patterns. Perspective and behavior are acquired through observation and practice of authentic activities.

Lev Vygotsky's (1925/1979) theory of cognitive development suggests the importance of social interactions in the development of human intelligence. He argues that the higher cognitive function or consciousness is the product of socially meaningful activities and that an individual's mind is created from social interactions through observation. Vygotsky suggests:

[the] mechanism of social behavior and the mechanism of consciousness are the same... We are aware of ourselves in that we are aware of others; and in an analogous

manner, we are aware of others because in our relationship to ourselves we are the same as others in their relationship to us (Vygotsky, 1925/1979, p. 29).

Vygotsky's work "stresses that individual intelligence emerges as a result of biological factors that interact with physical and especially a social environment through a developmental process" (Lindblom and Ziemke, 2003, p. 80).

According to Vygotsky (1934/1978) there are elementary and higher levels of mental function. Elementary mental functions are inherent in a human or animal and are referred to as signalization. Signalization is the direct link between the stimulus and the response which is limited to simple memory, attention, and other rudimentary sensory functions that lack thought. Vygotsky further postulates that higher mental function is an exclusively human phenomenon and is a direct result from human interaction. Higher mental function requires an intermediate step such as language or other psychological tools that generates thought in an individual to bridge the path between the stimuli that result in a different response. There are two levels that comprise the higher mental function: the interpsychological level is the interaction between people, and the intrapsychological level is the interaction within the individual. An individual has the ability to behave in a certain manner through observation and integration of knowledge both deliberately and unconsciously. Vygotsky (1934/1978, pp. 56-57) states:

The transformation of an interpersonal process into an intrapersonal one is the result of a long series of developments events. The internalization of socially rooted and historically developed activities is the distinguishing feature of human activity, the basis of the qualitative leap from animal to human psychology.

The internalization process is related to Vygotsky's theory, zone of proximal development where the transformation of interpersonal functions to intrapersonal function occurs. The individual learns through the interactions with others to use psychological tools in order to acquire and integrate knowledge. The zone represents the 'distance' between an individual's actual level of

independent problem solving and the level of potential ability to problem solve under supervision or in collaboration with more capable people. In this respect, Lave's apprenticeship learning theory and the relationship between the novice and master is similar to Vygotsky's concept zone of proximal development (ZPD).

Knowledge convergence is the common thread throughout this discussion. Successful Learning organizations foster communication and collaboration among employees to develop and grow a thriving practical knowledge base. Organizations use online CoPs as a vehicle to foster relationships, network, and build knowledge so that individuals effectively share to achieve knowledge convergence.

Chapter 3

METHODOLOGY

The purpose of this study was to develop and test an online community of practice learning environment that incorporates specific knowledge building principles to promote the outcome of knowledge convergence and to reify tacit knowledge through storytelling, shared work related experiences and ideas through online discussions, and to develop best practices that will increase job performance and Owner Loyalty (OLP) customer survey scores. Specifically, this study investigated the effectiveness of a knowledge-building community of practice learning environment on job-related knowledge, convergence, and on-the-job performance of Subaru dealership Service Advisors. This chapter describes the Methods of the study.

Participants

The participants for this study included a sample selected from 61 dealership Service Advisors from Subaru, of America, Inc. who are required to complete the Building Service Excellence online training course to attain customer service certification and qualify for the Service Advisor SUMMIT Recognition incentive program. Within the dealership organization, the Service Advisor has the most customer contact; therefore, he or she is pivotal in creating and maintaining customer loyalty. The participants were comprised of 68% male and 32% female. All participants graduated high school with 24% reporting some college courses. The experience level of study participants ranged from less than six months to over 35 years.

Research Context and Materials

Development Dimensions International (DDI) located in Pittsburgh, Pennsylvania is a performance improvement and talent management company that designs training programs to impact an organization's culture resulting in a high performance workforce. The *Creating a Service Culture* foundation course was customized for Subaru of America. The seven-hour classroom-based training course entitled *Building Service Excellence* was converted into two different treatments for this study: (a) an online community of practice learning environment and (b) an online self-paced instruction environment. *Building Service Excellence* is the cornerstone customer service course and required of all Subaru dealership personnel. The course material introduced Service Advisors to basic customer service skills that are essential to maintain and increase customer loyalty. The content of the treatments was validated by professional customer service experts and experts in Learning Environment Design who included;

- Three Instructional Designers at DDI and a research team and faculty member at Penn State
- Subaru's Owner Loyalty Manager
- 38 Dealership employee professionals who participated in the pilot study

To be consistent across treatments, all instructional content material and assessments are identical. The online community of practice learning environment and the self paced instructional environment *Building Service Excellence* courses contain seven customer service related topics: 1) Personal and Practical Needs 2) Steps to Service 3) Key Principles 4) Taking the HEAT 5) Walkers and Talkers and 6) Recovery and 7) Action Planning. The presentation of the instructional materials is identical utilizing WebEx Presentation Studio to produce PowerPoint-like presentation instructional modules with audio narration, Adobe Captivate modules, text and electronic documents. The two treatments of the *Building Service Excellence*

course were developed and designed to operate in Moodle (Modular Object-Oriented Dynamic Learning Environment). Moodle is a free open source Learning Management System application developed and maintained by a consortium of educators to promote constructivist pedagogy. Moodle's functionality offers many features for the design of online instruction. Instructional designers have the ability to create comprehensive, content-rich, highly collaborative learning environments. The following table shows Moodle features.

<i>Feature</i>	<i>Short Description</i>
Assignment	The instructor can provide written feedback or grade assignments submitted online by the student.
Chat	The module allows a real-time synchronous discussion.
Choice	A question by the instructor with a choice of multiple responses.
Files / Resources	Uploaded files for download (e.g. text documents, spreadsheets, slides, sound, graphic, or video).
Forum	The module allows asynchronous discussions between students and the instructor.
Glossary	Allows one to create and maintain a list of definitions.
Journal	The module enables students to reflect on a particular topic. The entries can be edited and refined over time.
Label	The module enables the instructor to add text or instructions to the content area of the course.
Lesson	Content is delivered in an interesting and flexible way, including grading and questions.
Quiz	The module allows the instructor to design a set of short tests.
Scorm	Uploaded and implemented SCORM packages as part of the course.
Survey	Standard surveys for gathering data from students (e.g. ATTLS, Critical incidents, COLLES).
Wiki	Enables the authoring of documents collectively in a simple markup language.
Workshop	Students are enabled to assess each other's projects in a number of ways.

Figure 3-1: Moodle Features (Williams, 2005)

Design

This study was designed to add to the existing knowledge base on knowledge-based communities by engaging in a cycle of principled design and subsequent research on that design. This study involves both the design of an online knowledge-building community of practice using empirically based design strategies, and the research of that community through investigation of multiple data sources over time.

The study was designed to examine learning within a contextually rich, ecologically valid, real-world context. Within this context, the quasi-experimental study was designed. The independent variables were the self-paced online course and the online knowledge based CoP learning environment. The self-paced online learning environment presented the course content without student or instructor interaction. The CoP learning environment contents were identical to the self-paced course; however, they contained actual customer-based scenarios in the form of discussion questions for students and instructor to interact. To mitigate the threats inherent to quasi-experiments, a randomized sample of participant's pretest from each the two f the groups was utilized for analysis to determine pretest equivalence (Creswell, 2005). The dependent variables were the pre and posttests, essay assessments, and SOLI OLP customer survey scores.

Treatments

The treatments were delivered to participants via the Moodle Learning Management System. The treatments are described as follows:

Self-paced Instruction Treatment

The self-paced treatment of the online Building Service Excellence customer service course is linear and entirely asynchronous without interaction between learners. The only discussion forum within the self-paced learning environment provided an opportunity to ask administrative questions of the instructor. Most of the questions posted to the forum were requests regarding course completions and test scores. Similar to the Building Service Excellence community-learning environment, the self-paced treatment group received identical instructional material and format containing text, pdfs, electronic workbooks, Adobe Captivate, WebEx Presentation Modules, and assessments.

Unlike the Building Service Excellence Community learning environment, each module of instruction addressed a specific customer service skill and contained the required text, pdfs, and Adobe Captivate and WebEx modules for the specific skill or concept. Each customer service skill module was adapted and customized from DDI's content and segmented by skill topics; Personal and Practical needs, Steps to Service, Key Principles, Walkers and Talkers, Taking the HEAT. Two Subaru-developed topics, Recovery and Action Plan development modules were added to supplement the course. In total, eight instructional sections addressed five specific customer service skill concepts. Learners were provided with a "road map" (see Appendix I) and module instructions to facilitate the navigation of the learning environment. Learners were encouraged to download, print, and repeat the modules as many times as needed to understand the material. Appendix C provides a screenshot of the segmentation of the self-paced learning environment course content.

Knowledge Based Community of Practice Treatment

The knowledge based community of practice Treatment of *Building Service Excellence* was designed to enable the learner to build knowledge, develop best practices, share tacit knowledge, and collaborate with peers.

In addition to the content materials described in the aforementioned section, learners were required to participate in a series of facilitated online discussion-focused activities that involve the development of four knowledge-building principles based upon Scardamalia's (2002) framework: (a) real ideas, authentic problems; (b) improvable ideas; (c) constructive uses of authoritative sources; and (d) community knowledge, collective responsibility.

Case-based instruction (CBI) approach was utilized to focuses on reasoning skills that link theory to practice. CBI enabled the students to respond to discussion forum case studies that presented authentic problem-based scenarios within a particular context. This instructional approach provides the student with the opportunity to apply their prior knowledge and experiences in solving real world problems. Cobb's (1996) case-based instructional design model illustrates that the construction of knowledge through conceptual activity and the process of social interaction and collaborative activity fosters reasoning skills to influence learning outcomes. Essentially, the student assumes the role of problem solver and is an active participant in the transmission of information.

These specific knowledge-building principles and authentic case scenarios guided facilitated discussions, activities and best practice development. Online communities of practice activities require participants to reflect and share work-related experiences and ideas through storytelling to solve on-the-job problems related to customer service issues and to develop best practices that will increase customer loyalty. The goal of the community of practice is to foster an individual member to share experiences with the community and to achieve knowledge convergence. The shared stories become the community's collective knowledge. Using the

discussion forums, community members have the opportunity to critically reflect, analyze, and collaborate in order to impact individual on-the-job performance. The course was designed to highlight the discussion forums in order to foster critical reflection and knowledge sharing.

CoP learning environments require a facilitator to monitor and guide the community through the evolution of the learning process. There is a redistribution of power within the CoP learning environment discussion forum activities. The instructor's role in the CoP environment shifts from instructor centered to community or learner centered. Within this environment, the instructor /champion relinquishes absolute authority and becomes the discussion forum facilitator who provides guidance so that the learner does not "converge" on the wrong answer, resources, scaffolds, and provides subtle direction for the community interaction; however, the instructor retains the role of knowledge authority.

When the learner enters the knowledge-based community of practice learning environment, he or she is welcomed to the community. The Welcome module provides an electronic book that reviews a process flow guide entitled "What do I do now? (See Appendix H) A guide for new members" so that the learner is familiar with the flow, sequence and expectations of the community learning environment. Another element of the Welcome module is the News Forum, which is a one-way communication forum intended to alert community learners of new information and announcements. "Around the virtual watercooler" is a general discussion forum that is available to the members to discuss any topic; personal or work related. Many of the community members collaborate on topics relevant to their day-to-day job experiences rather than the content presented in the course. "Idea Share – Best Practice Glossary" utilizes Moodle's glossary feature and its intended instructional use as a collaborative knowledge-building tool and connecting course terms with the content with hyperlinks (Ifenthaler, 2008). The final element in the Welcome Module is a Captivate module entitled "Create your Profile settings" to enable the learner to customize their profile by writing a brief biography,

upload a photo, add email addresses, and create a blog which fosters the social aspect of the community. Below is a screenshot of the Building Service Excellence Community learning Welcome module.

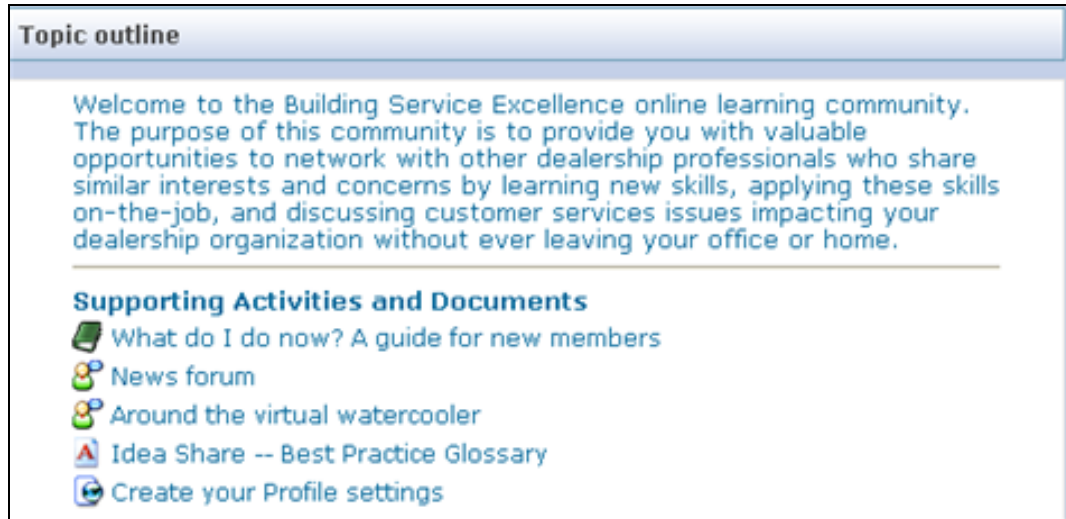


Figure 3-2: Building Service Excellence Community Learning Welcome Module

Module 1 “Let’s Get Acquainted” consists of preliminary community-building activities. The discussion forum entitled “*Introduce yourself to the rest of the community*” begins the community-building process by allowing learners to describe themselves, their work related challenges, and post an interesting website. The “Let’s Get Acquainted” (see figure 3-3) activities focus on Scardamalia’s Community Building, and Constructive Uses of Authoritative Sources, knowledge building principles.



Figure 3-3: Screenshot of Let's Get Acquainted Module

a. Be sure to include:

- Your Name and your Dealership's Name
- Your position at the Dealership
- Add a picture of you and/or your work environment
- How long you have been in your position
- How long you've worked in the automotive industry
- List one customer service challenge you have (don't name names!)
- List one thing you would like to learn as a result of this course

Then, post the URL of the interesting site you found in the Practice Using the Internet Activity and provide a short description of why you chose that site.
Be sure to respond to other community member's posts and welcome them to the class!

Figure 3-4: Profile

The second activity in module 1, "*Interesting Web Articles Summary*" discussion forum (see figure 3-5), focuses on Scardamalia's Constructive Uses of Authoritative Sources knowledge building principle and requires the learner to search the Internet for customer service information in the automotive industry and to share their selection with the community along with a rationale for their selection. Figure 3-5 is a description of the Constructive Uses of Authoritative Sources knowledge building principle activity.

There are many Internet Web sites that focus on Customer Loyalty. In addition, there are many automotive publications and Web sites that write about the importance of Customer Loyalty. Please take a few minutes and check out each of the links. If you wish, many of the Web sites listed have a free newsletter subscription for you to receive updates and information relating to customer service. Your first assignment will be to write a one paragraph (at least five sentences) summary about one article or website that you found most interesting and post your thoughts on this discussion board. If you don't like any that are listed below, you are welcome to search the Internet.

1. http://wardsdealer.com/ar/auto_wow_customer/
2. http://wardsdealer.com/ar/auto_customer_service_triage/
3. http://www.cisco.com/web/about/ac123/iqmagazine/archives/q3_2005/accelerate_customer_service.html
4. http://findarticles.com/p/articles/mi_m0FJN/is_n5_v31/ai_19231620
5. <http://www.jdpower.com/corporate/>
6. <http://usa.polk.com/Industries/Dealers/>
7. www.fixedopsmag.com
8. <http://www.myragolden.com/services%20-%20weekly%20ezine%20signup.html>
9. <http://tarp.com>

Figure 3-5: Activity 2: Interesting Web Articles Summary

Module 2, “Demystifying Customer Service Skills,” contains discussion forums that relate practice to the instructional content. Learners draw on practical experiences as they gain knowledge of new customer service content. Learners read case study scenarios; access the course content in Module 5 “Resource and Document Center” located in the last module of the course, such as the “Welcome to Keys to Service” WebEx module (Figure 3-6) , and complete the required discussion question activities.

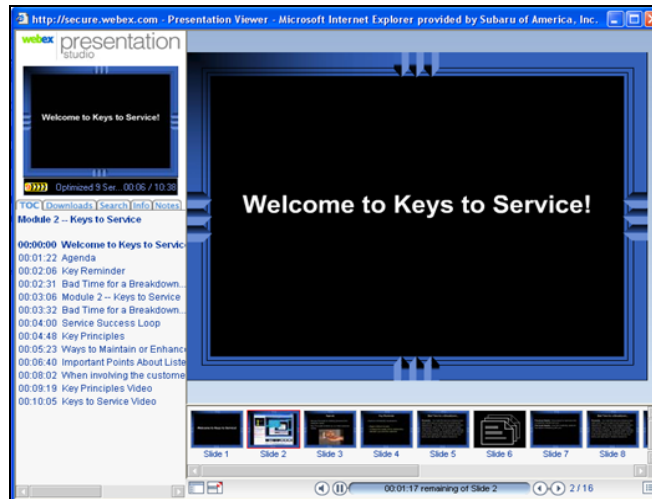


Figure 3-6: Screenshot of Welcome to Keys to Service WebEx Module

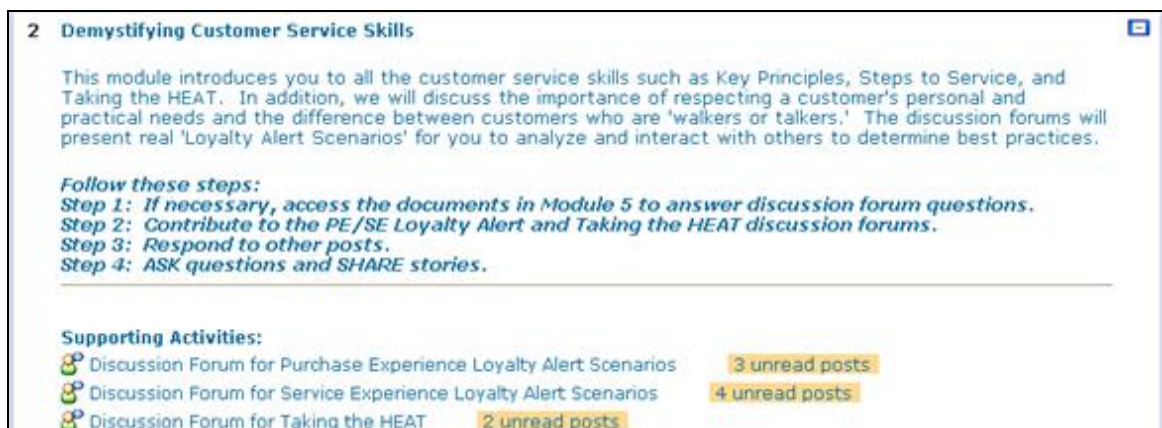


Figure 3-7: Screenshot of Module 2

The figure 3-8 is an example of the second discussion forum entitled “*Discussion Forum for Service Experience Loyalty Alert Scenarios*” Where learners read a negative customer service related scenario and were asked to respond to several discussion questions related to the case study using story telling. For example, the following case study activity was presented in the second module:

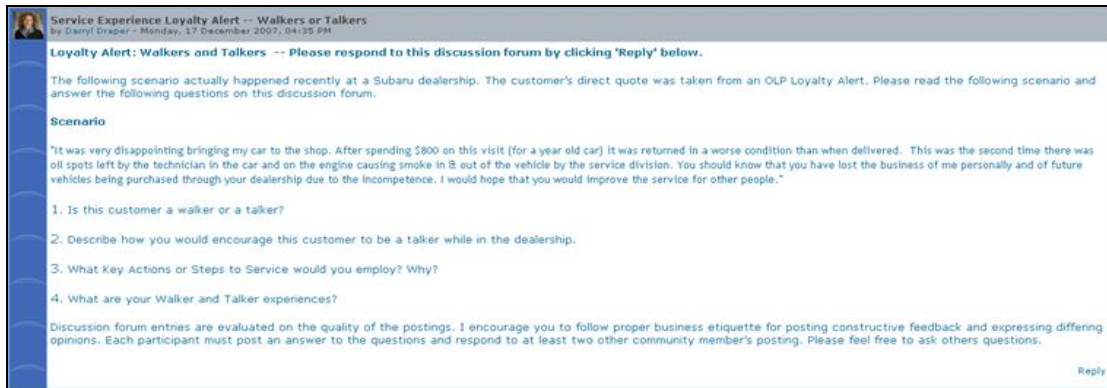


Figure 3-8: Screenshot of discussion forum scenario

Multiple discussion forums format were utilized to sustain learner motivation. In Module three, entitled “To Recover? Or not to Recover—That is the question...” requires the learner to relate a practical experience to the community. The following is one of the discussion forum activities that utilize Atkins and Murphy’s (1993) three key reflection stages: inner discomfort, critical analysis, and perspective transformation.

Describe the Recoverable situation. What was the story behind what caused the negative OLP survey?

List the investigational steps you performed/or will perform in recovering the customer.

What customer service steps, Key Principles, Service Steps and Taking the HEAT skills did you use to recover the customer.

What was the customer’s reaction? Are they more positive about your dealership?

Provide feedback to others by commenting on fellow member’s postings.

Remember, participation in the discussion forums is extremely important. Posting early and often will benefit all members.

In order to successfully complete this activity you must post answers to the questions – and reply to at least **two** other community member’s postings. Please feel free to ask others questions.

Figure 3-9: Discussion Forum Posting Instructions

Another format of discussion forum activity presented in Module 3, is the “BSE 911 Customer Assistance!” that focuses on idea improvement and sharing real ideas to promote knowledge building and knowledge convergence.

If you have encountered any situations that you feel you could improve upon and would like other members to help you with ideas or solutions, then this is the forum for you! Don't be bashful, we have all gone through similar experiences and there is nothing better than to get advice from someone who's been there, done that! Take a deep breath, count to ten and tell your story...🙄

Figure 3-10: BSE: 911 Customer Assistance! Discussion Forum Activity

Modules 1-3 presented information within Bloom’s taxonomy of analysis and synthesis levels. Module 4 incorporates the knowledge and skills presented in the course, collective experiences of the community of practice, analysis of specific learner OLP survey data, and synthesis of all information to create a dealership specific action plan using the templates and processes introduced in the module. The following activities are in Module four entitled “Action Planning”

Use the Action Planning Template to begin creating your action plan.

Now that you have all the information and resources to begin developing your action plan, let’s review the six action planning steps:

Review your dealership’s report and identify **one** area of opportunity.

Complete the top section of the OLP Action Plan worksheet.

Identify which employees will be involved in plan (WHO)

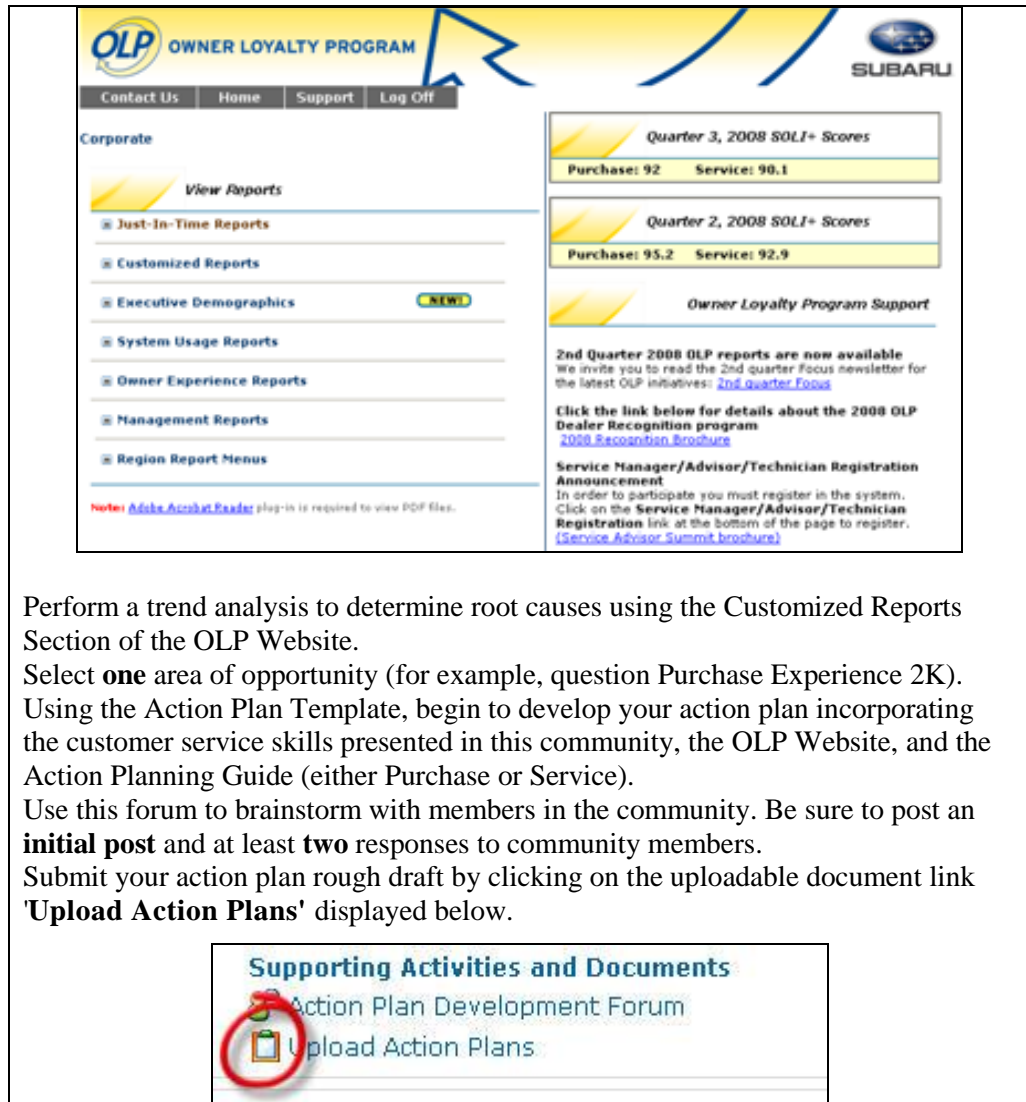
Identify specific steps in plan (DOES WHAT)

Develop timeline (WHEN)

Return to dealership and implement.

Activity Instructions:

1. Make sure you have all your documents available when beginning this process.
2. Go to the OLP website and access your Just-In-Time Reports and/or Quarterly Reports to analyze your OLP Data (see picture below)



Perform a trend analysis to determine root causes using the Customized Reports Section of the OLP Website.

Select **one** area of opportunity (for example, question Purchase Experience 2K).

Using the Action Plan Template, begin to develop your action plan incorporating the customer service skills presented in this community, the OLP Website, and the Action Planning Guide (either Purchase or Service).

Use this forum to brainstorm with members in the community. Be sure to post an **initial post** and at least **two** responses to community members.

Submit your action plan rough draft by clicking on the uploadable document link **'Upload Action Plans'** displayed below.

Figure 3-11: OLP Action Planning Guide – Service Experience

All of the knowledge-based community of practice course content resides in Module 5 and includes electronic books, pdf and template documents, Adobe Captivate modules and links to WebEx pre-recorded modules. The following figure is a screenshot of the Resource and Document Center Module.

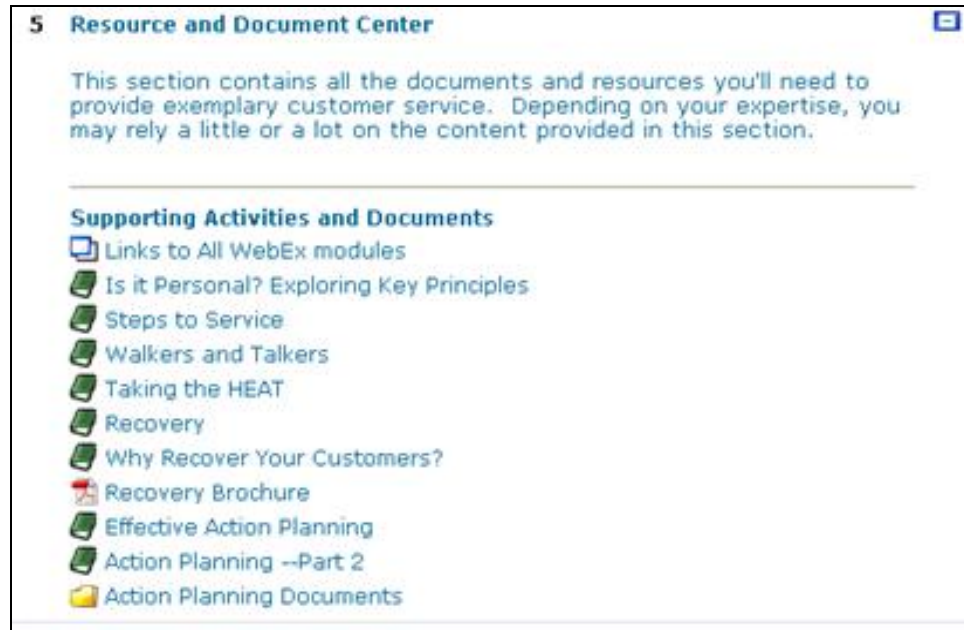


Figure 3-12: Module 5 Resource and Document Center

Criterion Measures

Three criterion measures were developed to assess students' understanding of the instructional material: (a) a pretest/posttest of declarative knowledge; (b) scenario-based essay assessment (posttest only); and (c) OLP customer survey scores (SOLI) gather from first quarter 2008 and fourth quarter 2008.

Pretest and Posttest

The pretest measured students' overall prior knowledge of the course content. The declarative knowledge test was developed to assess the level of knowledge before the instruction. Students from each treatment accessed the pretest online using Moodle's quiz feature. The pretest consisted of thirty randomly generated and sequenced multiple choice, true/false, and matching questions, which were generated by the researcher/course instructor. The questions were developed directly from the course content. The purpose of the declarative knowledge

posttest was to measure the changes in declarative knowledge of course content as a result of the training. The students were required to complete the online test after completing the course content modules in order to qualify for the Service Advisor SUMMIT incentive program and receive credit for the course. The pretest/posttest is included in Appendix A.

Essay Assessment

The scenario based essay assessment was the final measurement completed by the learner. Each of the five scenario-based essay questions required the learner to read an authentic workplace situation and respond in writing using storytelling to integrate course content and practical workplace experiences. A copy of the essay assessment items is provided in Appendix E.

Customer Survey Owner Loyalty Program (SOLI) Scores

Subaru of America, Inc's Owner Loyalty Survey Program (OLP) was designed to gather customers' thoughts and opinions regarding their recent purchase or service experiences at any United States Subaru dealership. The Likert scale survey was comprised of three major questions relating initial customer satisfaction, comparison to competition, and the customer's intent to repurchase or re-service at the respective dealership. Two major questions, initial customer satisfaction and comparison to competition questions, have accompanying diagnostic questions that determine process improvement opportunities. The overall customer satisfaction, comparison to competition and intent to repurchase questions make up the SOLI score. SOLI is an acronym for Subaru Owner Loyalty Index. All Subaru dealership Service Advisors are rated by their customers through the OLP survey and the resulting survey responses are scored and recorded on the OLP website.

Service and Purchase Experience surveys are sent out by the US Postal service within a week of a customer's visit to the dealership. Only customers who respond to the survey within 90 days are scored and recorded on Subaru's OLP website (www.olp.subaru.com).



Figure 3-13: Subaru of America, Inc. OLP Website

Each returned and completed customer survey is scanned and posted to the OLP website. The scores are broken down into diagnostic question scores and customized reports are generated to track dealership personnel performance and loyalty scores. Table 3-1 represents the ten diagnostic questions in which dealership Service Advisors are evaluated in order to qualify for recognition incentive money. Each diagnostic survey question relates to the customer service skills presented in the Building Service Excellence training modules. The following are Service Advisor customer loyalty diagnostic survey questions that relate to initial satisfaction which affect loyalty and tied to recognition incentives:

Table 3-1: Listing of Service Experience OLP Survey Questions for Service Advisors

Question #	Diagnostic Question
Question 2c	Were you greeted upon arrival at the dealership?
Question 2d	Did the Service Advisor inquire about your vehicle concerns?
Question 2e	Was the Service Advisor knowledgeable about your car?
Question 2i	Was your vehicle ready when promised?
Question 2k	Was the Service Advisor committed to doing the job right?
Question 2l	Was your paperwork ready when you picked up your vehicle?
Question 2m	Did the Service Advisor clearly explain the repairs performed on your car?
Question 2n	Was your vehicle in good condition when returned to you?
Question 2o	Was the Service Advisor willing to take extra steps?
Question 2p	Did the Service Advisor follow-up after the vehicle repair?

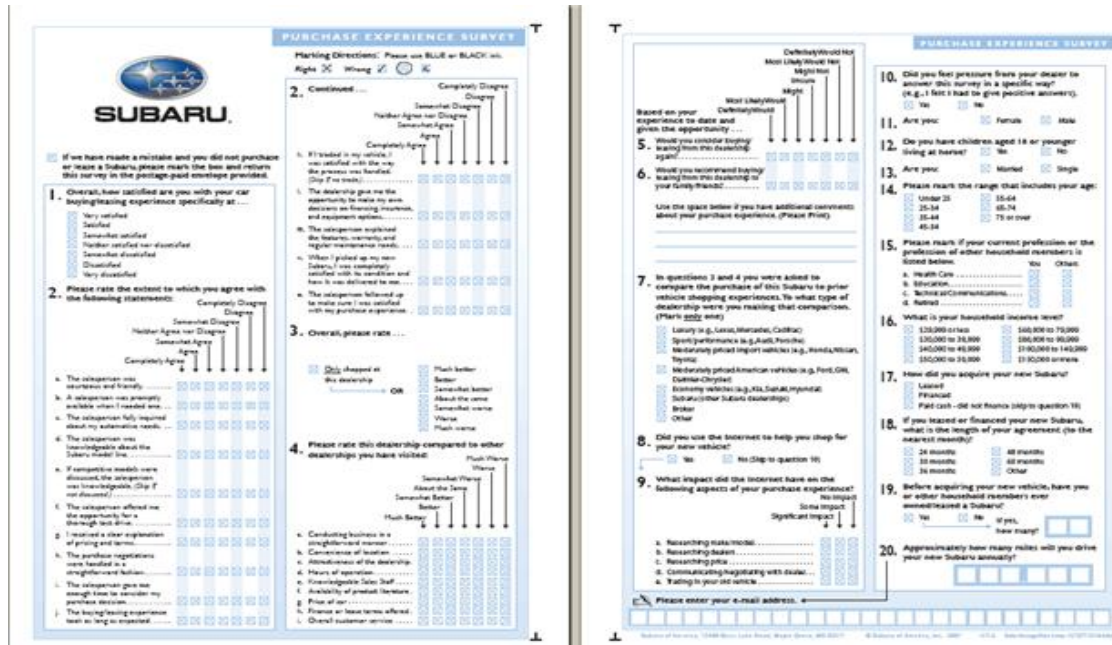


Figure 3-14: Service Experience OLP Survey

In an attempt to increase customer loyalty and promote the Service Advisor’s follow up process with customers, Subaru initiated the SOLI+ initiative. SOLI+, or the Recovery Program, was designed so that the Service Advisor could create a more positive customer experience with the dealership. If the customer was contacted and the Service Advisor made an attempt to satisfy the customer, and the customer would complete and return a Recovery survey, then the lower

SOLI score would be increased to become the SOLI+ survey score. SOLI+ scores are always higher than SOLI scores; a negative Recovery survey will not affect SOLI scores.

Procedures

The study was conducted online using the Learning Management System, Moodle. The study was available to approximately 1200 Subaru dealership Service Advisors across the United States. Each dealership is owned and operated by individuals who are legally bound by a dealer agreement with Subaru of America, Inc., a sales and marketing division of Fuji Heavy Industries located in Japan to sell, market, and service Subaru brand vehicles. Currently, Subaru does not own any Subaru dealerships in the United States. Subaru has no influence on dealership employee selection or training behaviors. With the exception of mandatory service technician training to correctly diagnose and repair Subaru vehicles, all other Subaru developed training is voluntary.

All Subaru Service Advisors were invited to participate in the Building Service Excellence training course. An announcement was placed on Subaru of America's intranet page, Subarunet, inviting all Service Advisors to participate in The Building Service Excellence training course. The two treatments were available to the Service Advisors and the learner self selected either the knowledge based community learning environment or the self-paced learning environment. The researcher could not control the participation in either group and was required to use participants who chose to enroll in the training; therefore, the conditions for a true experimental design was not achieved. However, all students were required to complete identical declarative knowledge pre-test and post test, and the essay assessment. Due to the nature of the corporate setting and the availability of students there was a need to use intact groups resulting in a quasi-experiment design (Creswell, 2005). Students were required to complete all assignments

and assessments to gain credit for the training. The students were required to complete the content and pass the posttests with a minimum score of 80% to be eligible to qualify for the Subaru Service Advisor SUMMT incentive program.

The treatment materials were available 24/7 from any computer; from either work or home environment. Computer hardware varies from student to student; however, each PC is equipped with a CD drive, mouse, sound card, flash software, and a high-speed internet connection. After students enrolled in the course, they took the same pretest. They then proceeded through the course material. The participants enrolled in the knowledge-based course proceeded through the course material at their own rate. The participants in the community-based course followed a course timeline that lasted 12 weeks. The material was delivered at the student's convenience and was a requirement for qualification in Subaru's Service Advisor SUMMIT incentive program. The study was conducted over a six-month period. There were no restrictions on the amount of access attempts, time limitations, or location once students first access the course. After the course ended, participants were asked to take a knowledge posttest and an essay posttest. After 60 days, SOLI scores were collected for participants by an automatic data processing script and exported into an Excel spreadsheet.

Chapter 4

RESULTS

The purpose of this study to explore the effectiveness of a knowledge building community of practice learning environment on job-related knowledge, knowledge convergence, and on-the-job performance of Subaru dealership Service Advisors. This chapter describes the results of the analyses for each dependent variable. Data were analyzed using MINITAB 15.

Declarative Knowledge Pre-Test

The pretest data were analyzed to determine if the two sample means were similar. Table 4-1 shows the descriptive statistics for pretest scores from the self-paced and knowledge based community-learning environments.

Table 4-1: Descriptive Statistics for Self-Paced Pre-Test Scores vs. Community Pre-Test

	N	Mean	SD	SE Mean
Self-paced Pre-Test	61	23.78	2.75	0.35
Community Pre-Test	61	23.42	2.82	0.36
Difference	61	0.364		

The pretest scores of participants from each treatment were analyzed to determine comparable population means. To test the null hypothesis that there is no difference between the pretest scores of the self paced and community learning environments, a two-tailed test using the t-test statistic was used to analyze variances and means of the two populations. Glass and Hopkins (1984) state that there are three t-test assumptions: “(1) the X’s within each of the two populations are normal X’s y distributed; (2) the two population variances are equal; and (3) the

individual observations (X 's) are independent (Glass & Hopkins, 1984, p. 236). It is unknown whether the observed value will be greater or less than expected and a two-tailed t-test is a more conservative or demanding (Creswell 2005, p. 188) analysis on the data. The level of significance or p value is ($p < .05$). Table 4-2 shows the two-tailed t-test statistic for the self-paced and community pretest.

Table 4-2: Two-Sample T-Test For Self-Paced Pre-Test Scores vs. Community Pre-Test

Variances	t-value	df	SE of Difference	95% Confidence Interval		p-value
				Lower	Upper:	
Equal	.72	120	0.364	-0.634	1.361	0.472

The t-test revealed equal means on the self-paced and community pretests as indicated in table 4-3 ($t(120) = .72, p < .472$). Thus, there was no difference between pretest scores across groups and accept the null hypothesis.

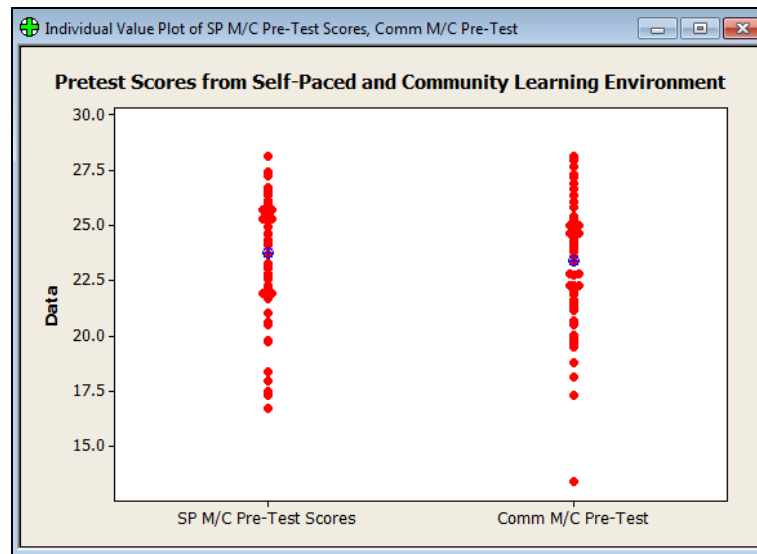


Figure 4-1: Value Plot of Self Paced Pre-Test Scores vs. CoP Pre-Test Scores

According to Glass and Hopkins (1984) a t-test for means is mathematically equivalent to the analysis of variance when the number of groups equals 2. The three t-test assumptions are that the means within each of the two group populations are normally distributed, the two population variances are equal and the individual observations are independent. The researcher expected that the Service Advisors would score higher on the posttest than the pretest across treatments. Additionally, the researcher expected that the Service Advisors who self-selected the knowledge building community intervention would have higher posttest scores than the self-paced instruction group. To address this research question, analyses of the sample's posttest scores were investigated. The primary data sources for addressing this question came from the analyses of posttest scores from the self-paced treatment and the posttest scores from the knowledge building community.

Declarative Knowledge Posttest

The multiple-choice posttests were administered after the completion of the content for the self-paced and knowledge-based community treatments. The researcher expected that Service Advisors in the knowledge-based community learning environment treatment would score higher. Figure 4 - 2 shows a plot diagram of the post test scores and means from the two treatments. The self-paced environment posttest scores located on the left side of the graphic have a mean of 25.88 with a standard deviation of 1.78. The self-paced posttest scores have a greater spread than that of the knowledge based community posttest scores. The posttest scores from the knowledge-based community are tightly compact with a .664 standard deviation and a higher mean score of 28.638 resulting in a difference of the Service Advisor's average posttest scores in the knowledge based community of practice learning environment.

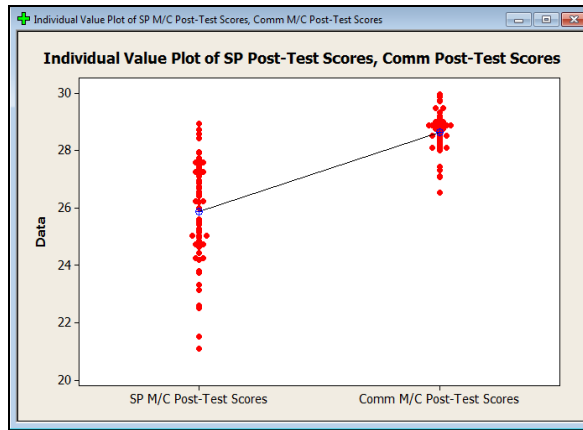


Figure 4-2: Individual Value Plot of Self-Paced Post-Test Scores vs Community Post-Test Scores

The sample is considered large; greater than 30, therefore an assumption can be made that the scores are normally distributed. To confirm this assumption, the researcher performed a frequency distribution. Figures 4-2 and 4- 3 support the assumption that the sample posttest scores from the treatments are normally distributed.

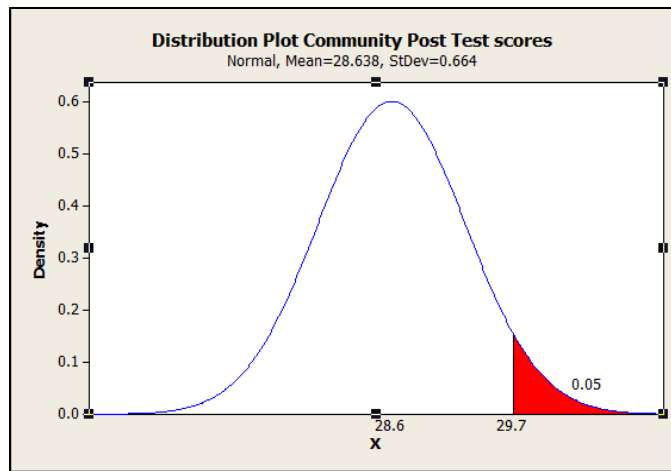


Figure 4-3: Normal Distribution of Community Treatment Post-Test Scores

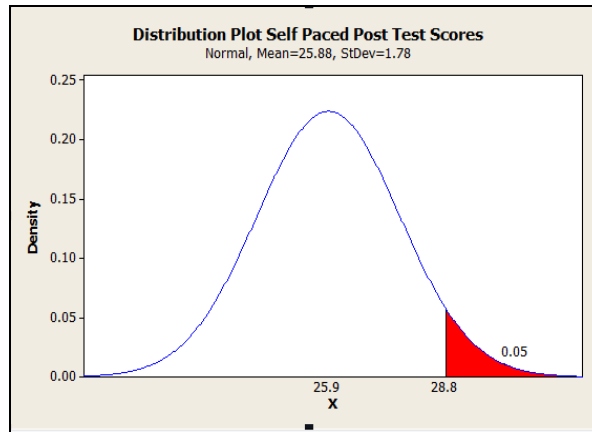


Figure 4-4: Normal Distribution of Self-Paced Treatment Post-Test Scores

Table 4-3: Descriptive Statistics for Self-Paced Post-Test Scores vs. Community Post-Test

	N	Mean	SD	SE Mean
Self-paced Post-Test	61	25.88	1.78	0.23
Community Post-Test	61	28.638	0.664	0.085
Difference	61	-2.757		

To evaluate the statistical significance of the difference in test scores, a two-sample t-test was performed. Table 4-3 reports the results of these tests and shows that participants in the community of practice learning environment had higher scores by a statistically significant margin ($t(120) = -11.31, p < 0.00$).

Table 4-4: Two-Sample T-Test for Self-Paced Post-Test Scores vs. Community Post-Test

Variances	t-value	df	SE of Difference	95% Confidence Interval		p-value
				Lower	Upper:	
Equal	-11.31	120	-2.757	-3.240	-2.274	0.00

Q2. What are the effects of learning environment design (self-paced or knowledge-building community) on employee’s knowledge convergence as measured by criterion essay assessment?

Essay Assessment

The scenario based essay assessment was the final measurement completed by the learner. Each of the five scenario based essay questions required the learner to read an authentic workplace situation and respond in writing using storytelling to integrate course content and practical workplace experiences. The techniques used in this study attempt to measure unobservable theoretical constructs using concept mapping to determine knowledge convergence.

Clariana and Koul (2004) suggest that there is a natural relationship between concept maps and essays, and content and process knowledge. Essays can be converted into concept maps to determine sharedness among the two groups and compare “group” mental models. To analyze the essay scores, the researcher utilized a method called Analysis of Lexical Aggregates (ALA-Reader, a software application) that enables the conversion of written essay responses into concept maps. This text representation tool analyzes small text samples using specific key terms. The key terms selected and shown in Figure 4-5 were derived from the course content.

customer(s)	customer			
car	car	vehicle		
loaner	loan	rental		
need(s,ed)	need			
repair(s)	repair			
shuttle	shuttle	transportation	ride	pickup
complete	complete	done	ready	
time	time			
appointment	appointment			
available	available			
offer	offer			
wait(ing)	wait			
inconvenience	inconv			
contact	contact	phone	call	
take	take			
service	service			
apologize	apolo	sorry		
make	make			
know	know			
what	what			
let	let			
today	day			
explain	explain			
thank	thank			
may	may			
give	give			
ask	ask			
situation	situation			
possible	possible			
first	first			

Figure 4-5: Key terms derived from essays

Key terms include synonyms and metonyms at the sentence level and saves the data into a link array file. Clariana, Wallace and Godshalk (2009) use further analysis of sentences in text by eliminating all key terms except for the pre-selected key terms derived from the expert essay. The key terms that co-occur in the same sentence of the written responses are included in the proximity array. The link array as shown in Figure 4-6 can be further analyzed by Pathfinder network scaling. The proximity arrays can be displayed as force-directed graphs. These graphs are node-to-node representations that depict key word propositions in the text as a graph (Clariana et al., 2009).

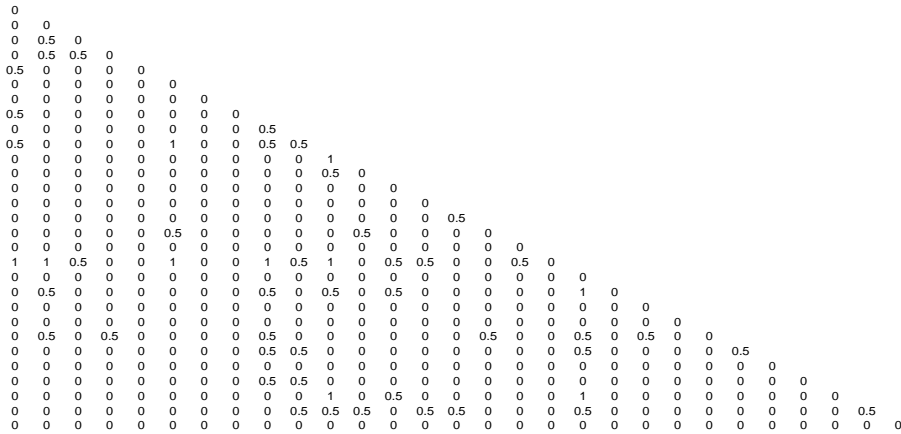


Figure 4-6: Example of Link Array

After the essays were collected, they were manually spell checked using *MS Word*, then word frequency of the entire essay corpus was analyzed using <http://textalyser.net> (see Figure 4-7). The frequency analysis output was used to create a terms.txt file containing a list of the 30 key terms and their synonyms and metonyms. Then *ALA-Reader* software utilized the terms.txt file to process (using text pattern matching) all 121 participant essays, generating a proximity file (prx) for each essay.

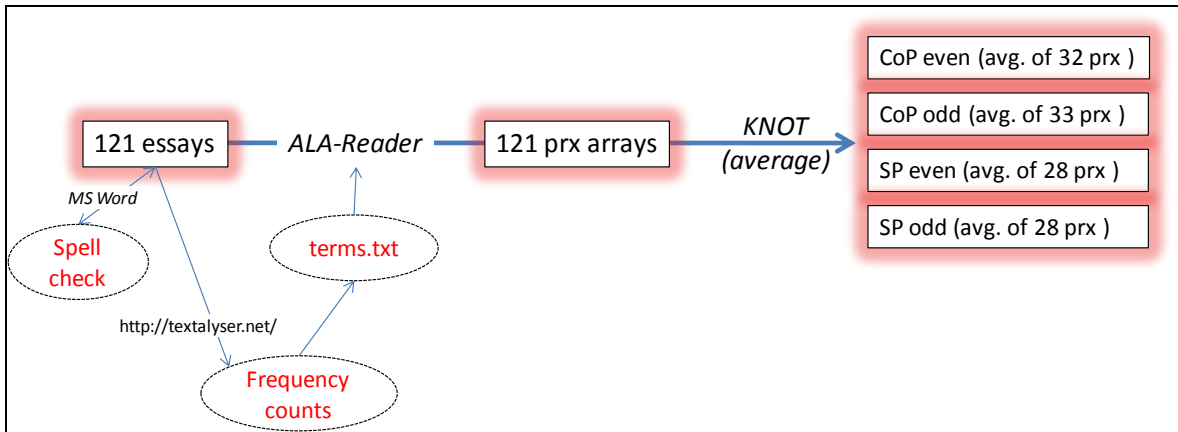


Figure 4-7: Converting Essays into PFNET Network Graphs

Next, the 121 prx files were randomized within treatment and numbered. To form two groups for each treatment for comparison purposes, Pathfinder *KNOT* software was used to average the odd numbered (e.g., 1..3..5..x) and the even numbered (e.g., 2..4..6...etc.) prx files, and then *KNOT* was used to convert each prx file into a pathfinder network (PFNET). This approach produced an expert essay PFNET (see Figure 4—6) and four ‘group’ PFNETs including SP_{odd} , SP_{even} , CoP_{odd} , and, CoP_{even} .

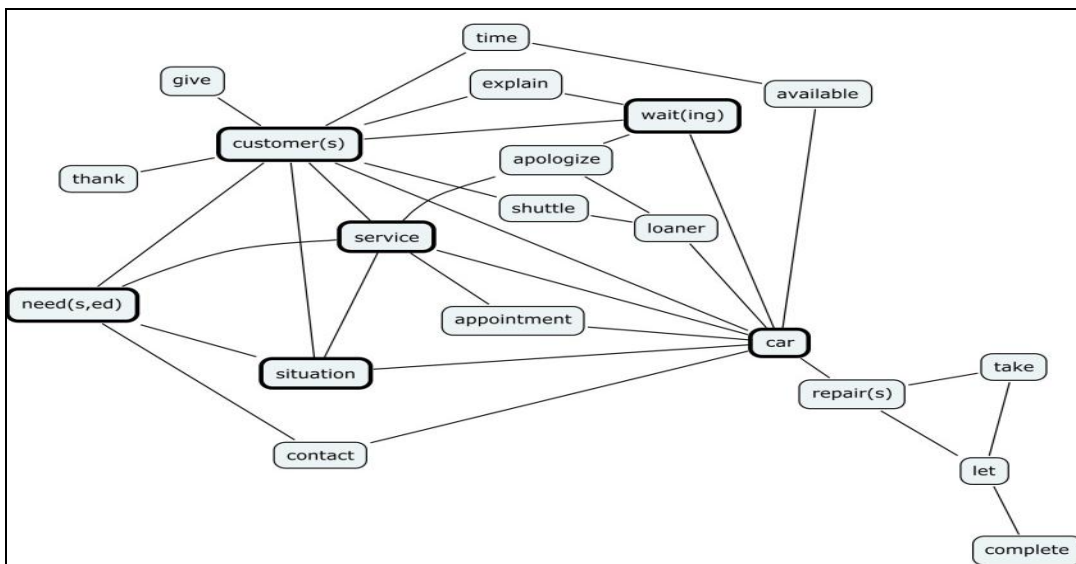


Figure 4-8: The PFNET Obtained for the Expert Essay Concept Map

Then KNOT software was used to compare these five PFNETs. Examination of links in common and percent overlap indicate that the CoP PFNETs were more alike (66% overlap between the even and odd CoP groups) relative to the SP PFNETs (33% overlap between the even and odd SP groups).

Research suggests that using ALA-Reader and KNOT for analyzing an individual essay with an expert essay count the common network links and that the common measure is a better predictor of knowledge convergence because incorrect associations are disregarded (Taricani & Clariana, 2006). Since these ‘group’ PFNETs are derived from the individual students’ essays, among other things, we conclude that the online community of practice strategy (CoP) led to a convergence of these participants mental models that was reflected in their essays and thus in the group PFNETs.

Q3. What is the impact of learning environment design (self-paced or knowledge-building community) on individual on-the-job performance, as measured by customer survey performance indicators?

The SOLI score data were analyzed to determine if the two sample means were different. Table 4.4 shows the descriptive statistics for SOLI scores from the self-paced and knowledge based community learning environments.

Table 4-5: Descriptive Statistics for Self-Paced SOLI Scores vs. Community SOLI

	N	Mean	SD	SE Mean
Self-paced SOLI	61	93.11	3.77	0.48
Community SOLI	61	97.34	2.99	0.38

A two-tailed t-test was calculated for determining whether the difference between two independent sample means represented a true difference between populations thereby rejecting the null hypothesis of no difference between the means of the population (Shavelson, 1996, p.

339). Table 4.5 represents the two-sample t-test and the confidence interval for the self-paced SOLI scores and the knowledge based community SOLI scores. The t-test revealed unequal variances on the self-paced and community posttests as indicated in Table 4.5, with the community group outperforming the self-paced group. Table 4.5 reports the results of these tests and shows that participants in the community of practice learning environment had higher scores by a statistically significant margin ($t(113) = -6.86, p < 0.00$).

Table 4-6: Two-Sample T-Test for Self-Paced SOLI Scores vs. Community SOLI

Variances	t-value	df	SE of Difference	95% Confidence Interval		p-value
				Lower	Upper	
Equal	-6.86	113	-4.227	-5.447	-3.007	0.00

Post-Hoc Self-Report Measure: Online Readiness Survey

The Subaru dealer organization embraced the notion of online training. The traditional classroom style training of the past was extremely costly for dealership personnel due to time off work, understaffing, travel, and the cost of the training fee to the manufacturer. Dealership personnel viewed online training as a way to educate the workforce without the high cost associated in taking the employee out of their work environment. Feedback from corporate colleagues suggested that online training was not as effective as classroom training for the unique audience. As a result of corporate colleague feedback, an online learning readiness survey was developed using SurveyMonkey to uncover Subaru dealership personnel’s views on online learning readiness. In addition to demographic information, the survey focused on the following four areas: learner motivation, organization and management skills, technology skills, and available computer availability.

All Subaru dealership personnel were invited to take an optional online learning readiness survey that was administered after the study. The SurveyMonkey survey link was posted on Subaru's intranet web site for five business days. There were approximately 209 survey responses submitted over a five-day period. The survey focused on four areas: John Keller's ARCS elements of learner motivation, organization and management skills, technology skills, and available computer equipment.

The learner's propensity for online learning readiness is closely linked to psychological motivation. John Keller's ARCS model (Keller, 1987) provides a framework of four attributes that prepare learners' for online learning. The primary attribute of Keller's model is gaining and sustaining learner's attention. Promoting awareness by inquiry was accomplished using Moodle's forum activity to create a variety of discussion forums such as case studies, and discussion questions. Relevance is Keller's third attribute. Learner's motivation is sustained when content is relevant and objectives are clearly stated which leads to high confidence levels. Accordingly, confidence is high when the learner feels in control of their learning progress and assessments. Learners who expect to succeed will be more motivated and more likely to learn (Dille & Mezack, 1991). These individuals have an internal locus of control and are more inclined to succeed in the pursuit of online learning. Conversely, learners with an external locus of control will need more encouragement and guidance from the instructor. Moodle's functionality allows instructional designers and instructors to provide timely feedback on quizzes and grade book entries maintaining high confidence levels in internal and external locus of control learners. Keller's fourth attribute, satisfaction, relates to the learner's belief that their training success is a direct result of their effort. Grades, positive facilitator and peer feedback are mechanisms that increase the satisfaction with online learning. John Keller's ARCS motivation model and the learner's personality construct of locus of control are considered in the development of the survey to determine readiness for online learning.

How motivated are you to learn online?							
Answer Options	Most definitely NOT	NOT like me.	Neutral.	Somewhat like me.	Most like me.	Rating Average	Response Count
I like to set goals and deadlines for myself.	8	9	18	24	37	3.76	96
I like to can keep myself on track and on time.	7	10	13	16	22	3.53	68
I have a reason for taking online training courses.	13	12	24	24	17	3.22	90
I like to finish the projects I start.	0	3	11	25	34	4.23	73
I do not quit because things get difficult.	2	5	9	26	70	4.40	112
<i>answered question</i>							198
<i>skipped question</i>							11

Figure 4-9: Results Motivation for Online Learning

The majority of the respondents have high intrinsic motivation to learn online. Overall, the responses reveal a preference for goal setting, keeping on track, finishing tasks, and tenacity to finish training. Since customer service training is not mandatory for Service Advisors and this factor was evidenced in the survey results as not having a reason to take online training courses.

How are your organizational and time management skills?							
Answer Options	Most definitely NOT like me.	NOT like me.	Neutral.	Somewhat like me.	Most like me.	Rating Average	Response Count
I usually work in a place where I can read and work on training without distractions.	16	18	16	11	17	2.94	78
I work on completing training requirements outside of the work environment.	14	15	13	12	11	2.86	65
I can ignore distractions around me.	9	6	13	10	11	3.16	49
I am willing to spend XXX amount of time each week on training.	2	14	13	12	8	3.20	49
I like to keep a record of my training requirements and their due dates.	3	2	11	10	19	3.89	45
I like to plan my work in advance so that I can adhere to deadlines.	1	4	6	15	32	4.26	58
People around me try not to distract me when I study.	13	10	12	11	1	2.51	47
I am willing to use email and other online tools to ask my classmates and instructors questions.	7	3	11	20	21	3.73	62
<i>answered question</i>							162
<i>skipped question</i>							47

Figure 4-10: Results Organization and Management Skill Levels of Dealership Personnel

The online training is available at all times, however, the majority of the dealership personnel engage with the learning environment during working hours. With the constant influx of customers and co-workers coupled with inadequate staffing, many respondents felt that they were unable to engage in the online learning environment without interruption. Management skills and keeping on track with assignments and due dates were important to the population.

After reviewing the demographic data and the online learning readiness survey, the researcher's thoughts regarding the survey results were confirmed. Demographic data (See Appendix G) revealed that two thirds of the survey population age is over 45. 34.1% of the population is a high school graduate and approximately, 30% completed 1-2 years of higher education. The population is rich in practical experience with 49.3% having more than 21 years of on-the-job experience

The training courses on Moodle are available 24/7; participants can engage in the learning environment at the workplace or at home. The survey revealed that the population had a high level of computer equipment availability including current operating systems, printer, high-speed internet connection, antivirus software, and multimedia capabilities. Subaru dealerships, in accordance with the dealer agreement must have high-speed internet and current computer technology to support the technical service department's requirements. The survey revealed that the respondents possessed adequate computer skills to surf the internet, install software, and access programs. It is interesting to note that the population was less proficient in the use of wikis, blogs and YouTube functionality.

In summary, the online learning readiness survey confirmed the researcher's assumptions that the learning population is older, male, high level of practical experience, high school educated, technically functional and highly goal oriented.

Chapter 5

GENERAL DISCUSSION

The purpose of this study was to investigate the effectiveness of an online knowledge-based community of practice learning environment to promote the integration, convergence, and sharing of knowledge around workplace practices. The goal of the study was to add to the existing research on knowledge-based communities by engaging in a cycle of principled design and subsequent research on that design. The chapter begins by summarizing the results of the previous chapter and discussing the effects of the knowledge-based community of practice online learning environment. Instructional recommendations are then made. The chapter ends with conclusions, limitations of the study and recommendations for future research.

Summary of Results

The purpose of the pretest was to measure the students' overall prior knowledge of the instructional material. A t-test of pretest scores as the dependent variable indicated that there were no significant differences between the participants in the self-paced or knowledge-based community of practice learning environments before the study began. The purpose of the posttest was to measure the students' increase in declarative knowledge as a result of the training. The students were required to complete the online test after completing the course modules in order to qualify for the Service Advisor SUMMIT incentive program and receive credit for the course. A t-test of posttest scores as the dependent variable indicated that the participants in the knowledge-based community of practice group significantly outperformed the participants in the self-paced group on the declarative knowledge posttest.

The purpose of the essay assessment was to measure the students' integration of course material to determine knowledge convergence. Each of the five scenario-based essay questions required the learner to read an authentic workplace situation and respond in writing using storytelling to integrate course content and practical workplace experiences. The techniques used for this research question attempted to measure unobservable theoretical constructs. ALA-Reader and PCKNOT software provided a quantitative frequency analysis to reveal that a greater evidence of knowledge convergence occurred in the knowledge-based community of practice learning environment. This approach provided another view to complement traditional posttest scores and participant interviews of what occurred as a result of this online learning CoP strategy.

The SOLI score data were analyzed to determine if there were any differences in customer service survey scores for participants in both groups. The t-test revealed significantly higher customer service scores for the knowledge-building community group.

Individual Knowledge

Prior research indicates that community knowledge is greater than the sum of individual participant knowledge (Gherardi & Nicolini, 2000). The results of the declarative knowledge multiple-choice tests and authentic scenario-based essay assessment scores uncovered a similar conclusion. The declarative knowledge test, similar to traditional classroom assessment, was designed to measure the increase in an individual's knowledge by comparing pretests and posttests from the two groups. Soden and Halliday (2000) conducted a case study of vocational training in Britain focusing on the effective transfer of knowledge from the classroom to the workplace. The authors concluded that there was little evidence that vocation students effectively transferred knowledge from the classroom to the workplace. Their findings suggest that knowledge that is not 'situated' is less likely to transfer to situations in which it is likely to be used. In this study, knowledge based CoP scores from the declarative knowledge posttests were

significantly higher in comparison to the self-paced scores. One possible explanation for this finding is that the design efforts of the community CoP learning environment fostered greater connection between knowledge and situated practice. This claim warrants future study that analyzes the online posts to better isolate the primary factors responsible for the increase in declarative knowledge scores.

Knowledge Convergence

Technology has enabled adult education, in particular, workplace education, to become more accessible and attractive to learners and organizations alike. The increasing proliferation of technology and the Internet have enabled online individual and group learning that foster the convergence of knowledge in the workplace. Robey, Khoo, and Powers (2000) argue that when learning is removed from where it is applied then it is less effective than when learning is situated in the workplace. The results of the knowledge based CoP group essay assessment revealed that responses to authentic scenario-based lesson case studies did promote a higher level of knowledge convergence than the self-paced group. These findings are consistent with the knowledge convergence theory that will be discussed further below.

Windor's (2001) research on distributed cognition suggests that individuals learn differently in the classroom than in the workplace. The design of the knowledge based CoP learning environment coupled with the authentic case study essay assessment firmly situated the learning in the work environment. In a sense, the design of the CoP course enabled the workplace to become the classroom and promote the effective transfer of knowledge from one individual to another and to the collective. The authentic scenario based essays were designed to measure knowledge convergence and the effectiveness of uniting the course content in context. The results of the essay assessments revealed that knowledge convergence was evident in each of the two groups. The knowledge convergence experienced in the self-paced environment could be

explained as a by-product of learning. However, there was a higher level of knowledge convergence in the CoP group than the self-paced group. The study's findings support Fischer and Mandl (2005) research on knowledge convergence where shared application-oriented knowledge was affected by collaboration, Teasley's transactivity theory how learners impact each other through the acknowledgement and elaboration of ideas as evidenced in discussion forum activities, and Wenger's social structure to community of practice

Situated Learning

The customer service survey (SOLI) scores provided a measure of the effects and transfer of the participants' learning to situated practice. The results of the survey scores revealed that the CoP group had significantly higher customer service survey scores than the self-paced group. This is a significant finding, in that survey results are tied to dealer performance appraisals. These findings are consistent with Lave's notion of 'change as learning.' Lave (1993) further states that situated learning involves action and changes in knowledge, which is a requirement in learning. Knowledge based CoP survey scores (SOLI) revealed a greater change in knowledge and action (on-the-job performance) than the self-paced group. This suggests a need for organizations to go beyond the documentation of formal, explicit knowledge to reveal and reify the 'knowing' dimension of knowledge. Organizations that promote the use of online CoPs as a vehicle to foster relationships, collaborate, and build knowledge value the process of 'knowledge work' to create ubiquitous learning in the workplace.

Instructional Recommendations

The findings on the declarative knowledge pretest and posttest, authentic based-scenario essay assessment to identify knowledge convergence, and the customer service survey (SOLI) indicates that a knowledge-based community of practice learning environment promotes more

effective learning outcomes than a static self-paced environment. Therefore, designing highly collaborative and situated activities may lead to higher scores if the instruction includes strategies and LMS features to support learning.

Most instructional design models incorporate an audience analysis (Dick and Carey, 1990; Heinich, Molenda, Russell, Smaldino, 1999; Morrison, Ross and Kemp, 1997) in the design process (e.g. Rothwell & Kazanas, 1998). Understanding the audience and their motivation, organization, management, and technological skills are important factors to consider in the development of online knowledge based CoP content, activities and assessments. Future research should be conducted to propose the development of instructional design models that include a component of analysis that determines the degree to which an organization is a learning organization, and subsequently, its readiness to implement knowledge based online community of practice learning environments. One goal of a learning organization is to make the classroom ubiquitous. Current instructional design models are comprehensive and can be adapted for online delivery, however, are limited in fostering electronically delivered modalities within learning organizations. Specifically, the effectiveness of online learning is not included in contemporary processes used to determine the applicability of developing and promoting knowledge-based community learning environments. Therefore, instructional systems researchers should analyze organization structure and culture, mission and vision, and attitudes regarding the value and efficacy of knowledge building in an e-learning environment.

The analysis of organizational structure and culture in the instructional design process should include an inventory of current technological resources and features, such as learning management systems and authorware. Ifenthaler (2008) conducted a research study that focused on the development of a taxonomy of Moodle features for the design of online instruction. The taxonomy connects technological features to instructional design processes. Ifenthaler's Moodle Taxonomy (See Appendix D) provides a comprehensive explanation of Moodle features that

includes a short description of each feature, design elements information, instructional use, and learning outcomes.

CoP learning environments require a champion, or instructor to monitor and guide the community through the evolution of the learning process. There is a redistribution of power within the CoP learning environment discussion forum activities. The instructor's role in the CoP environment shifts from instructor centered to community or learner centered. Within this environment, the instructor /champion relinquishes absolute authority and becomes the discussion forum facilitator who provides guidance, resources, scaffolds, and provides subtle direction for the community interaction; however, the instructor retains the role of knowledge authority.

Implications for Design

Based on the results of this study, collaborative learning such as knowledge-based communities of practice learning environments can lead to knowledge convergence in individuals and groups. Case-based pedagogy focuses on reasoning skills that link theory to practice and mirrors CoP and apprenticeship theory. Case-based instruction (CBI) enables students to experience authentic problem-based scenarios within a particular context and is an effective instructional strategy in the CoP learning environment. This instructional approach provides the student with the opportunity to apply their prior knowledge, informal knowledge, and work experiences in solving authentic problems. Cobb (1996) suggests that case-based pedagogy places the student in an active role by encouraging teamwork and community dialog. Cobb's case-based instructional design model illustrates that the construction of knowledge through conceptual activity and the process of social interaction and collaborative activity reveals informal knowledge, and fosters reasoning skills to influence learning outcomes. Essentially, the

student assumes the role of problem solver and is an active participant in the transmission of information.

Informal learning occurs in the practice element of a CoP. Corporations construct explicit forms of knowledge such as formal procedures, manuals, and training, which in most instances do not relate to authentic employee practices. Authentic practice reveals situated learning through storytelling by means of narration, collaboration and social construction. There is a direct connection between storytelling and knowledge construction which is used to create a communal understanding of a situation. CBI promotes the process of informal storytelling through which individuals narrate the facts of a situation that is situated within their environment. Collaboration occurs through the production of individual narratives that create communal knowledge. Storytelling prompts the process of critical reflection resulting in a change in meaning schemes or knowledge convergence. The storytelling process that incorporates critical reflection through dialog contributes to the development of practical knowledge. The reflection process requires an individual to become self-aware, to evaluate past experiences and existing beliefs and practices which causes self doubt. As a result of the sense-making process, the individual develops his or her own professional identity, contributes to the development of the community.

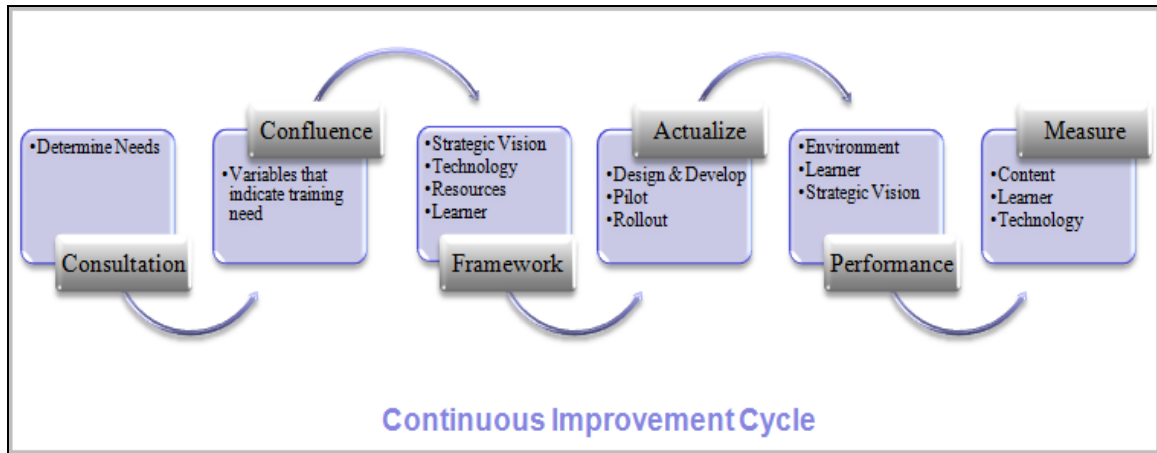


Figure 5-1: Instructional Design Model

Instructional systems professionals' goal to optimize knowledge building activity or fostering the emergence of CoP activities must evaluate technological features and functionality of learning management systems. Effective utilization of learning management systems interactive capabilities enables the customization of online instructional materials that cultivate the knowledge building process. For example, Ifenthaler's (2007) development of a practicable taxonomy of Moodle features enables instructional designers to construct knowledge building activities. Specifically, incorporating appropriate discussion questions focused on authentic ill-structured problems using Moodle's forum feature allows students to provide different solutions to the problem. Synchronous discussions between students and instructor will facilitate knowledge building and community activities. King and Kitchner (1994) suggest that each response to ill-structured problems has strengths and weakness and provides an alternative point of view to justify the solution and build knowledge. The forum feature is the hub for collaborative learning where students can exchange opinions and information and receive feedback from others and instructor. The chat feature in Moodle allows real time synchronous discussion that intensifies the communication among the group. Students and instructor have the capability to conduct virtual meetings to discuss course content and address questions. Computer

mediated communication such as the chat feature has advantages over face-to-face conversations. Stahl's (2008) research on collaborative knowledge building argues that the text chat feature provides students a way to express uninterrupted thoughts and opinions. Text postings cannot overlap each other and do not interrupt another's thoughts. Additionally, multiple students can be typing at the same time and posts can appear out of sequence that provides new and inventive ways for interaction to create a sense of community. An interesting notion on how students interact in the CSCL environment could enable instructional designers to develop and incorporate effective chat activities that promote knowledge building activities within a CoP learning environment.

Limitations of the Study

There were three main limitations in this study. First, the setting dictated a quasi-experimental design; the results of this study should not be generalized. Participants in the study were Subaru dealership Service Advisors from independently owned dealer organizations. Corporate initiatives and training programs offer dealership employees opportunities to improve knowledge and performance, however, the manufacturer has little influence on dealership employee selection or training behaviors and participation in corporately sponsored training initiatives. It was unfeasible to follow rigorous true experimental procedures of randomly assigning students to groups due to the corporate and cultural setting, organization structure, and the availability of students. In this case, there was a need to use intact groups in a natural workplace setting resulting in a quasi-experiment design. Furthermore, past CoP research (Johnson, 2001) indicates that most online groups are self-selected, rather than being true

randomized selections in an experimental design (Ricketts, Wolfe, Norvelle, and Carpenter, 2000).

Second, participant demographics and motivations played a role in the learning environments. The online learning readiness survey confirmed assumptions that age, education, and organization played a role in the amount of students enrolled in the training. The majority of the participants were over the age of 50 with a high school education and not exposed to a rigorous learning environment. Prior to this training experiment, the organization held the perspective that adults do not like to be tested which promoted a lack of learning measurement. Therefore, the organization did not require participants to be evaluated either formatively or summatively on any training program's course content. All courses required the learner to respond to a reaction evaluation (Kirkpatrick, 1994). During the study, feedback from some participants and corporate colleagues revealed resistance to testing, in particular, the essay assessment. Additionally, corporate colleagues and participants had limited experience with online learning and perceived the delivery as less effective than traditional classroom training. Participant motivation to complete the training was extrinsically driven by the qualification in the SUMMIT program.

Finally, internal corporate culture and the dealership organization contributed threats to validity to this study. Specifically, the mortality threat to validity had an effect on the number of participants who actually completed the study. Internal pressure from corporate colleagues on the researcher to eliminate the essay test requirement reduced the participant population considerably. High employee turnover is inherent in the automobile dealer organization. National Automotive Dealer Associate reports that on average auto dealers have experienced almost 50% employee turnover.

Reflection

The design and development of communities of practice learning environments are valuable to organizations; however, organizational and individual effort in growing and sustaining such an environment is high. If an organization is not aligned from the executive level downward to support and promote a collaborative e-learning initiative, then the e-learning initiative will fail. There is a need for instructional systems professionals to develop a comprehensive instructional design model that incorporates additional components of analysis to determine the degree in which an organization is a learning organization, learner readiness and motivation, and organizational maturity to determine readiness for the implementation of online collaborative, knowledge based online community of practice learning environments. Current instructional design models are comprehensive and can be adapted for online delivery, however, are limited in fostering electronically delivered modalities within learning organizations. Figure 5.1 is an instructional design model that was developed post hoc to specifically focus on organizational and individual readiness for e-learning. The organization and learner analysis is woven through each stage to ensure that corporate vision, learners, and organization's resources are aligned for the development of e-learning training solutions.

Implications for Learning Organizations

The increased accessibility of technology and internet connections has enabled organizations to provide their workforce the opportunity to engage in distributed education. "Harnessing this innovation calls for organizational and technological infrastructures that support the interplay of knowledge and knowing" (Cook & Brown, 1999, p. 381). Lave and Wenger (1991) suggest that learning is a social process through relationships with people and linked to the

context in which it takes place. Social learning takes place when people share a like interest, communicate, and collaborate over time to build knowledge. More recently, communities of practice have been linked with knowledge management as organizations recognize their potential contributions to human capital and organizational performance. Knowledge based CoP learning environments have the ability to drive corporate and initiative strategy, create new products and services, communicate exemplary practices, which decrease the learning curve of novices, solve problems quickly, and develop practical skills. Knowledge-based online communities of practice benefit from cultivation. This is not an easy task. CoPs by nature are spontaneous and informal which makes them difficult to control in support of training and organizational development. Because of CoP's informal nature, participants have a strong need for social identity and for their work to contribute to the whole organization. Within knowledge based CoPs there is a tight connection between knowledge and activity. Successful learning organizations promote knowledge creation rather than knowledge management.

Ikujiro Nonaka's Knowledge Conversion Theory research as represented in the SECI model is a process in which organizations build knowledge through the refining or spiraling of individual tacit and explicit knowledge to add to the organization's knowledge base. Nonaka's SECI model has theoretical underpinnings in Vygotsky's theory of ZPD, knowledge building principles within CoPs, practical knowledge integration, and the reification of tacit knowledge into explicit knowledge as suggested by Polanyi. The basic principle of the SECI model is "that knowledge is created and improved as it flows through different levels of the organization and between individuals and groups" (Rice & Rice, 2005, p. 672). SECI is an acronym for Socialization, Externalization, Combination and Internalization (see figure 5.2) whereby practical knowledge is created and improved as it moves through the various stages of knowledge conversion. "Socialization is the process by which new tacit knowledge is created through shared experiences" (Nonaka et al, 2000, p. 10). It occurs in CoPs, apprenticeships, storytelling,

knowledge integration, and interactions with others. Externalization is the process by which the tacit knowledge becomes explicit providing a foundation for new practical knowledge as evidenced in CoPs. The combination process breaks down explicit knowledge into smaller knowledge units for analysis and diffusion within the organization. The last process, internalization, directly relates to Brown and Duguid’s notion of ‘know how’ where an individual uses tacit and explicit knowledge in the process of integrating practical knowledge.



Figure 5-2: Nonaka’s Four Modes of Knowledge Conversion

Organizations like Xerox have been successful at fostering community of practice learning environments with field service technicians. Orr’s (1999) research of Xerox service technicians exemplifies the divergence between explicit knowledge and authentic practice which reveals situated learning through storytelling by means of collaboration and social construction. There is a direct connection between storytelling and knowledge construction, which is used to create a communal understanding of a situation. Collaboration occurs through the production of individual narratives that create communal knowledge. Social construction is the sense making of contradictory and confusing information that is grounded in an individual’s perspective. As a

result of the sense-making process, the individual develops his or her own professional identity, and contributes to the development of the community.

The transition of an organization to become a true learning organization requires skill at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights (Gavin, 1993). As stated in the previous section, the analysis of the corporate culture and structure will help instructional designers determine whether an organization is ready for the implementation of online CoP learning environments. In the following discussion, two organization change models were employed to analyze an organization's shift to use online knowledge-based CoPs in attempt to develop into a learning organization. Harvard professor John Kotter's (1996) eight step model for leading change, and Thousand and Villa's (1995) managing critical change model were used to provide an explanation of an organization's effort at becoming a learning organization.

The framework for instructional systems researchers to assess an organization's level of development as a learning organization includes elements and processes suggested by Thousand and Vila's (1995) Managing Complex Change model shown in Figure 5.3 and John Kotter's (1996) Eight-Stage Process for successful change.

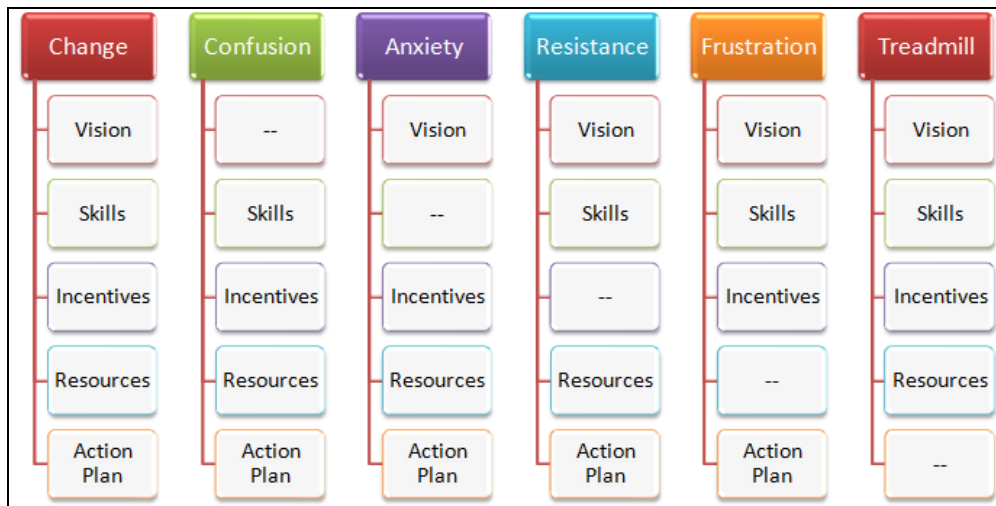


Figure 5-3: J. Thousand and Villa's Managing Complex Change Model

Thousand and Villa's (1995) model segments change elements into a matrix whereby each element is compared by a variable to predict a behavior. The elements that facilitate organizational change include a clear, concise, communicated corporate vision, the proper individual skills, proper incentives, appropriate resources, and a plan of action. The matrix shows that in the absence of an element or elements there are predicted outcomes. For example, when an organization has not effectively communicated their corporate vision, individuals and organizational confusion occurs. Anxiety is high when individuals and the organization lack the appropriate skills for change. The lack of skills, the second element, produces high anxiety in employees. A lack of incentives results in resistance to change. Frustration occurs when the organization needs resources to accomplish its goals. Thousand and Vila's last element is a plan of action. Without a detailed action plan, the organization is unable to attain their goals.

This research study has shown that a knowledge-building CoP learning environment was more effective for individual and group learning than a self-paced learning environment. Successful learning organizations foster communication and collaboration among employees to develop and grow a thriving practical knowledge base. The following section identifies the six key elements necessary to manage critical change within an organization; in particular moving towards becoming a mature learning organization.

Thousand and Villa's change model (1995) and Kotter's (1996) multi-phase Eight-Stage Process provides the framework and subsequent explanation for the reasons why an organization would not support online knowledge based CoP learning environments. The first phase is creating the climate for change. The organizations lacking a unified vision for training because of a disjointed organizational structure might place control of the training function in multiple corporate departments such as; Human Resources, Sales, Marketing, and Research and Development. Most organizations conduct training in the traditional classroom setting. Without a clear, concise, and communicated vision from the executive level, the corporate organizations

are unclear regarding the driver of the change and the individuals pushing the change. John Kotter (1996) suggests that developing the vision specifically for the change effort and strategy for achieving the change increases the likelihood of successful change. Figure 5.4 provides an explanation of Kotter's change model superimposed over the Shewart Cycle or Deming's Wheel for continuous improvement. The interior cycle is consistent with many systems models such as ADDIE, and the Can, Do Plan, Act cycle. Kotter further suggests that communicating the change vision through all available channels constantly and to provide a guiding role model to demonstrate the expected behavior to the organization will increase the likelihood of change.

In some corporate settings, training managers lack skills to develop, manage, and monitor classroom-training programs due to recruitment from other department within the organization. John Kotter's (1996) process states that establishing a sense of urgency by examining the market and identifying opportunities and benefits because of the change will enable change to occur. An organization might lack the technical skills to support and maintain a robust e-learning strategy. Individual perceptions might include that online learning was too complicated, uncontrollable, and ineffective.

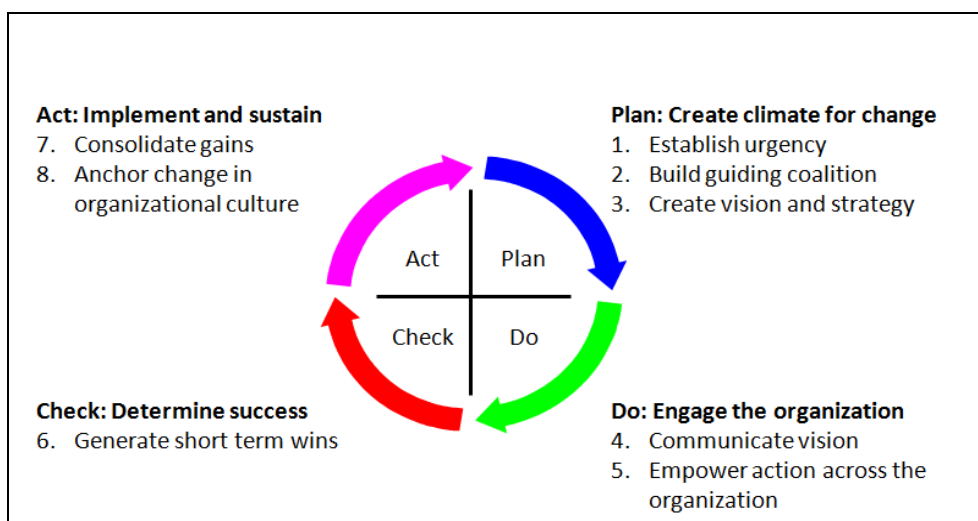


Figure 5-4: Kotter's 8 Step Model for Change

For some individuals, change is regarded as a negative concept. In reality, if change is to occur, an individual must want to change. Incentives can help motivate an individual to change their behavior. Some organizations incentivize their employees to participate in training programs and share in corporate initiatives. Incentives can be in the form of money, travel, trinkets, promotions, and products and available to learner as well as the management team. An organization's training manager who is not incentivized to consider or include e-learning into their course offerings even though e-learning would benefit the organization financially will not support and promote the initiative. The collective perception of e-learning might be that it is too complicated and would replace the training manager job function. The lack of a training vision at the corporate senior executive level might lead to resistance in considering e-learning as a viable training option. To help senior executives combat resistance, Kotter (1996) suggests the creation of a coalition to lead the change initiative within an organization. In this instance, the creation of an e-learning training coalition, working as a team, would have enough power to lead the change.

Another element in Thousand and Villa's change model is resources. Frustration occurs when an organization provides inadequate resources. For example, the learning management system Moodle provides the learners with collaborative knowledge building functionality, which includes discussion forums, document sharing, instant messaging and wikis at minimal cost to an organization. IT Departments play a critical role in providing technological resources to training managers and instructional designer for the effective design and implementation of e-learning programs.

The final element in Thousand and Villa's (1995) change model is the action plan process. Action planning provides organizational guidelines to follow in order to foster and promote change. The action plan process identifies all of elements in the managing critical change model: vision, skills, incentives and resources. Without a clear and concise action plan, the organization will not grow and evolve into a true learning organization.

John Kotter's Eight Step Model (1996) states that empowerment is an important element to eliminate obstacles or change existing systems to facilitate change. For example, the encouragement of individuals to take risks by thinking out of the box and rewarding them for their ingenuity will help to foster change. Another approach is to generate short-term successes to foster subsequent success which in turn produces more change. Kotter suggests that creating better performance and making the connections between productivity and behavior leads to organizational success.

Another tool that is useful for instructional systems professionals in the analysis of corporate receptiveness toward a learning organization is Marshall and Mitchell's (2002) e-learning Maturity Model (eMM). The eMM was created to focus on higher educational institutions' movement in the successful adoption and retention of e-learning. Maturity in the adoption of e-learning relates to the degree in which an organization values the acquisition and employs knowledge. Marshall and Mitchell's (2002) research focuses on how higher education institutions adopt new technologies in the learning process, in particular, how to create and deliver effective, high quality online content, and the efficient use of organization's technological resources. The eMM provides a roadmap for organizations willing to improve their e-learning processes. There are three important benefits for organizations who apply this model to e-learning. First, this framework will enable organizational involvement that includes ongoing development of technology and resources and the enhancement of support services. Second, the eMM provides a benchmark for organizations to determine improvements in current processes and pedagogical viewpoints. Third, Marshall and Mitchell's model provides an opportunity for ongoing development and identification of key processes and practices. Figure 5.5 provides an overview and explanation of Marshall and Mitchell's five hierarchical levels of e-learning maturity. The 'initial' level is where processes are determined by the specific need as the need arises. The planned phase is more organized resulting in the development of clear and

measurable organizational objectives for e-learning projects. As the organization evolves, a more defined approach is utilized to refine the processes for the development and support of e-learning. The managed level ensures the quality of an organization’s e-learning resources and student learning outcomes. The highest level of e-learning maturity occurs when an organization is optimizing all aspects of the e-learning processes for continual improvement.

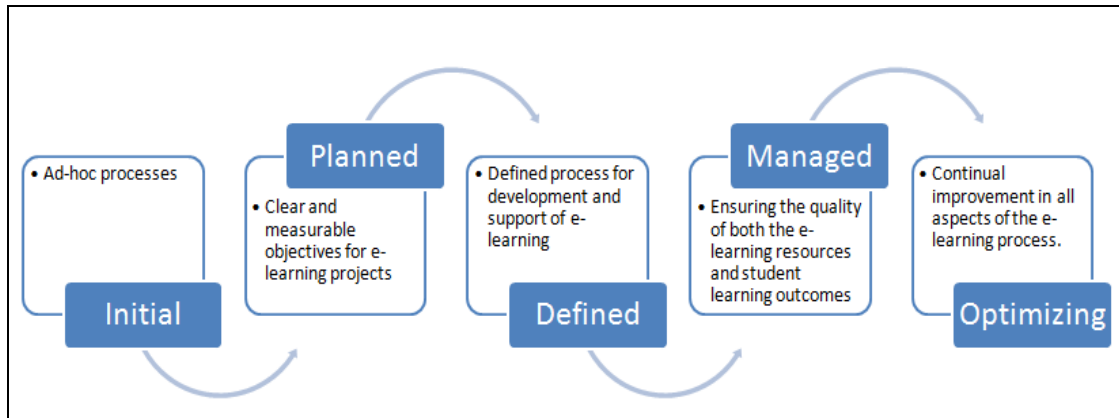


Figure 5-5: Marshall and Mitchell e-Learning Maturity Model

Marshall and Mitchell’s research on e-learning maturity provides a relevant framework for instructional systems researchers to assess an organization’s level of e-learning maturity and to propose possible outcomes to enable an organization’s transition into a learning organization. Marshall and Mitchell’s framework (2002) provides a roadmap to facilitate the adoption of e-learning. Figure 5.6 shows key outcomes for the initial process divided into four specific areas; student learning, resource creation, project, support, and organization. For example, an organization at the ‘initial’ level might employ different standards, and vision in each department. Corporate departments might utilize outside consultants in the design and delivery of training programs, therefore it might be perceived as unnecessary to develop standards, processes, and practices in the design and development of e-learning. In order for an organization to adopt an effective e-learning strategy all departments must be unified to develop processes, resources,

learner outcomes, pedagogical approaches, and measurement that promotes and fosters continuous improvement in the e-learning process.

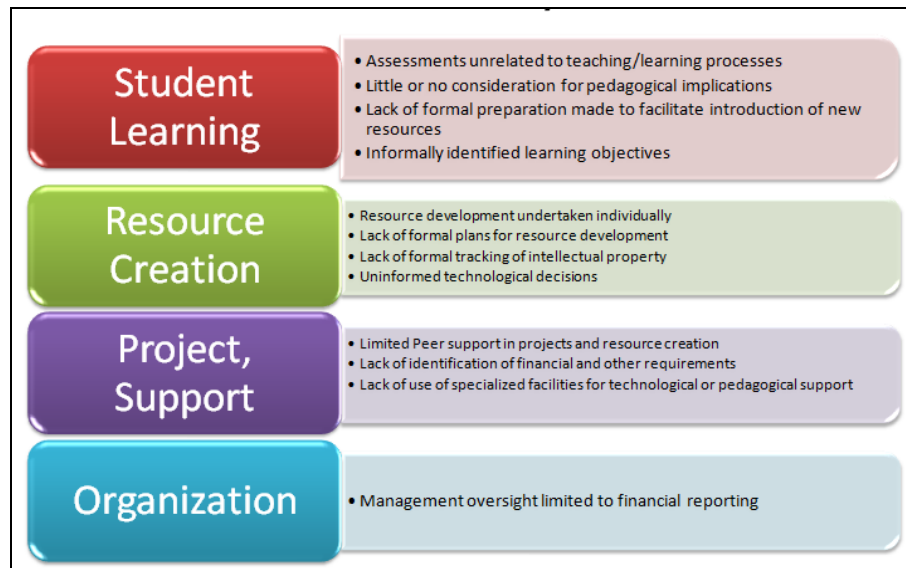


Figure 5-6: Level One Initial Key Outcomes

Future Research

This study examined the evidence of knowledge convergence in knowledge-based communities of practice learning environments. The results suggests that knowledge convergence occurred at a higher level in knowledge-based communities of practice learning environments than the self-paced learning environment which supports Roschelle's (1992) research that supports the outcome of knowledge convergence in collaborative learning. Fisher and Mandl (2005) conducted a study that reported modest levels of knowledge convergence in dyads where only a small fraction of knowledge was shared. The results of this study showed more than a modest level of knowledge convergence between the groups. Future research should be conducted using different populations' demographics, such as age, gender, education level,

learning style and motivation to determine who is best suited for a virtual, collaborative learning environment.

This study was conducted virtually, using the learning management system, Moodle. Wenger (2002) suggests that physical proximity within the community element is a factor in a CoP's success. He further states that one of the downsides of CoPs is the notion of localism where the community allows physical proximity or geography to define its borders. Online CoPs transcends physical borders that allow members to develop, flourish and connect to maximize the dynamics within the group. Many current Web 2.0 tools foster remote collaboration, which facilitate the creation of virtual communities. There is a need for further research to explore the application of remote collaboration in the development of virtual communities. (Johnson, 2001) Specifically, the design and development process of virtual collaborative learning environments that support knowledge-building activities and foster the emergence of a community of practice to promote knowledge convergence.

Jeong and Chi (2006) conducted research on collaboration leading to an increase in common knowledge, and to discern if the increase in common knowledge is attributable to convergence. Similarly, the subjects in this study shared common knowledge as a result of their work environment. The self-paced group results revealed that knowledge convergence was a by-product of learning and interacting with the content. Learners in the knowledge based CoP share common knowledge before entering the learning environment, which resulted in more common knowledge after the collaborative learning experience. Discerning whether knowledge convergence was solely the result of collaboration was not explored in this study and the effect of collaboration on knowledge convergence could be further investigated to determine whether knowledge convergence was attributed to an increase in common knowledge as a by-product of the learning. Therefore, exploring in more detail the evidence of knowledge convergence in

collaborative activities, not as the result of exposure to course content, may provide a better understanding of the effectiveness of collaboration on knowledge convergence.

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Appendix A

PRE AND POST TEST QUESTIONS

Question Type	Question Category	Question Text	Answers Text
multi-choice	Maintain or Enhance Self-esteem	To enhance self-esteem you must be: (select 2 of the following options)	sincere specific patronizing quick to answer controlling
match	Listen and Respond with Empathy	Please match the correct words with the following four statements.	_____ actively for facts about the situation; don't interrupt.: listen Listen and watch for signs about how the customer _____.: feels When a customer expresses an emotion, respond in a way that shows that you understand the _____ of the situation and what he or she is feeling.: facts Listening with empathy is not necessarily _____ with the customer.: agreeing When a customer expresses an emotion, respond in a way that shows that you understand the _____ of the situation and what he or she is feeling.: feels Listening with empathy is not necessarily _____ with the customer.: feels _____ actively for facts about the situation; don't interrupt.: feels Listening with empathy is not necessarily _____ with the customer.: facts
multi-choice	Taking the HEAT	Which of the following is NOT an appropriate way to Hear them out?	Maintain eye contact. Take notes. Ask the person to pause so that you clarify what he/she means. Nod your head to acknowledge what the customer is saying.
true/false	Keys to Service	Customers who receive consistently good service have a more positive view of your dealership and therefore are easier to work with.	True False
true/false	Value of the Customer	A dissatisfied customer presents an opportunity to create high levels of satisfaction and loyalty.	True False
true/false	Steps to Service	One step that is optional, depending on how pleased the customer seems to be, is Step 4, CONFIRM satisfaction.	True False

Question Type	Question Category	Question Text	Answers Text
true/false	Value of the Customer	Each time you deal with a customer, only the value of that one, single transaction is at stake.	True False
match	Personal and Practical Needs	Please determine if each of the following six statements are either Personal or Practical customer needs.	To be treated courteously: Personal Need To have an invoice adjusted.: Practical Need To get their vehicle repaired.: Practical Need To have a say in what's happening.: Personal Need To feel special.: Personal Need To speak without interruption.: Personal Need To have a say in what's happening.: Practical Need To get their vehicle repaired.: Personal Need To speak without interruption.: Practical Need To have an invoice adjusted.: Personal Need To be treated courteously: Practical Need
true/false	Keys to Service Business Success Loop	Business success means having a good level of revenue, growth, profit, and market share.	True False
multi-choice	Service Steps	Which of the Service Steps does the following statement represent? "I sense that you're not completely happy. What can I do to help you?"	Acknowledge the Person Clarify the Situation Meet or Exceed the Need Confirm Satisfaction
true/false	Value of the Customer	A customer who has had a problem fixed is more likely to become a loyal customer than one who never had a problem at all.	TRUE False
true/false	Customer Service Facts	Your customers usually tell only one or two other people about the service you provide them.	True False
true/false	Involve the Customer	Make the customer aware of options is an example of the "Involve the Customer" Key principle.	True False
multi-choice	Involve the Customer	When interacting with a customer, how would you use the "Involve the Customer" principle? (select all that apply)	Ask the customer for his or her preferences. Make the customer aware of your policies. Involving the customer does not mean giving too much detail. Involving the customer does not mean sharing personal information.

Question Type	Question Category	Question Text	Answers Text
			Keep the customer informed of what you are doing for him or her.
multi-choice	Taking the HEAT	Which is the more effective use of Empathize when Taking the HEAT?	"I know that you're unhappy with the part order. It's aggravating when such items aren't covered under warranty." "this particular part is not covered under warranty. I'm sorry about this situation."
short answer	Key Principles	Key Principles address customers' (personal/practical) needs. (Select One)	Personal Needs Practical Needs
true/false	Keys to Service	It's a fact that dealerships with a higher percentage of loyal customers also achieve greater business success.	True False
true/false	Steps to Service	You need to use all four Service Steps in order with each customer.	True False
short answer	Key Principles	Once an opportunity to use a Key Principle has passed, you (can always/usually cannot) return to it.	can always usually cannot
short answer	Key Principles	Key Principles should be used with (all/only selected) customers.	all only selected
true/false	Maintain or Enhance Self-esteem	Maintaining or enhancing self-esteem does mean offering false flattery.	True False
multi-choice	Maintain or Enhance Self-esteem	When using the Key Principle, Maintain or Enhance Self-esteem try to _____ the customer when appropriate.	compliment
match	Steps to Service	Match the Steps to Service with the corresponding examples for each step. There will be at least three correct answers for each of the four steps.	Acknowledge the Person.: Greet promptly and courteously. Acknowledge the Person.: Give your full attention. Acknowledge the Person.: Use appropriate pace. Clarify the situation.: Ask questions to determine needs. Clarify the situation.: Listen carefully. Confirm satisfaction.: Thank the customer. Clarify the situation.: Summarize to check understanding. Meet or exceed the need.: If routine, act promptly. Meet or exceed the need.: If not routine, agree on a clear course of action. Meet or exceed the need.: Take opportunities to exceed expectations. Confirm satisfaction.: Ask questions to check for understanding. Confirm satisfaction.: Commit to follow-through, if appropriate. Meet or exceed the need.: Thank the customer.

Question Type	Question Category	Question Text	Answers Text
			<p>Meet or exceed the need.: Listen carefully.</p> <p>Confirm satisfaction.: Summarize to check understanding.</p> <p>Confirm satisfaction.: Ask questions to determine needs.</p> <p>Confirm satisfaction.: If routine, act promptly.</p> <p>Clarify the situation.: Ask questions to check for understanding.</p> <p>Meet or exceed the need.: Summarize to check understanding.</p> <p>Clarify the situation.: Thank the customer.</p> <p>Confirm satisfaction.: Use appropriate pace.</p> <p>Acknowledge the Person.: Ask questions to determine needs.</p> <p>Acknowledge the Person.: Thank the customer.</p> <p>Meet or exceed the need.: Give your full attention.</p> <p>Confirm satisfaction.: Give your full attention.</p> <p>Acknowledge the Person.: Take opportunities to exceed expectations.</p> <p>Clarify the situation.: If routine, act promptly.</p> <p>Meet or exceed the need.: Commit to follow-through, if appropriate.</p> <p>Meet or exceed the need.: Use appropriate pace.</p> <p>Confirm satisfaction.: If not routine, agree on a clear course of action.</p> <p>Acknowledge the Person.: Listen carefully.</p> <p>Clarify the situation.: Use appropriate pace.</p> <p>Meet or exceed the need.: Ask questions to determine needs.</p> <p>Clarify the situation.: Give your full attention.</p> <p>Confirm satisfaction.: Take opportunities to exceed expectations.</p> <p>Meet or exceed the need.: Greet promptly and courteously.</p> <p>Clarify the situation.: If not routine, agree on a clear course of action.</p> <p>Meet or exceed the need.: Ask questions to check for understanding.</p> <p>Acknowledge the Person.: Ask questions to check for understanding.</p> <p>Acknowledge the Person.: If not routine, agree on a clear course of action.</p> <p>Confirm satisfaction.: Listen carefully.</p> <p>Clarify the situation.: Commit to follow-through, if appropriate.</p> <p>Acknowledge the Person.: If routine, act promptly.</p> <p>Acknowledge the Person.: Summarize to check understanding.</p> <p>Clarify the situation.: Take opportunities to exceed expectations.</p>

Question Type	Question Category	Question Text	Answers Text
			Clarify the situation.: Greet promptly and courteously.
multi-choice	Value of Customer	How much more money does it cost your dealership to attract a new customer versus retaining an existing customer?	2 times 5 times 6 times 10 times
true/false	Steps to Service	One step that is optional, depending on how pleased the customer seems to be, is Step 4, CONFIRM satisfaction.	True FALSE
multi-choice	Taking the HEAT	Which is the more effective use of Apologize when Taking the HEAT?	"I'm sorry you're upset." "I'm sorry this part backorder has inconvenienced you."
multi-choice	Walker Key Action	What Key Action is your most important tool for getting a walker to express dissatisfaction, and turn the customer into a talker?	Ask questions to check for satisfaction, in Service Step 4. Clarify the situation, in Service Step 2. Meet or exceed needs in Service Step 3. Acknowledge the customer in Service Step 1.
true/false	Steps to Service	If you feel that you clearly understand the customer's needs, there is no need to summarize to check for understanding.	True False
true/false	Keys to Service	Customers who are moderately satisfied with your sales or service experience will definitely give you additional business in the future.	True False
multi-choice	Steps to Service	What do you do? If a customer is not satisfied when you try to CONFIRM satisfaction, then....(select one)	return to Step 2; Clarify the situation return to Step 1; Acknowledge the person return to Step 3; Meet or exceed the need Key Principle; Listen and Respond with Empathy Key Principle; Involve the customer

Appendix B

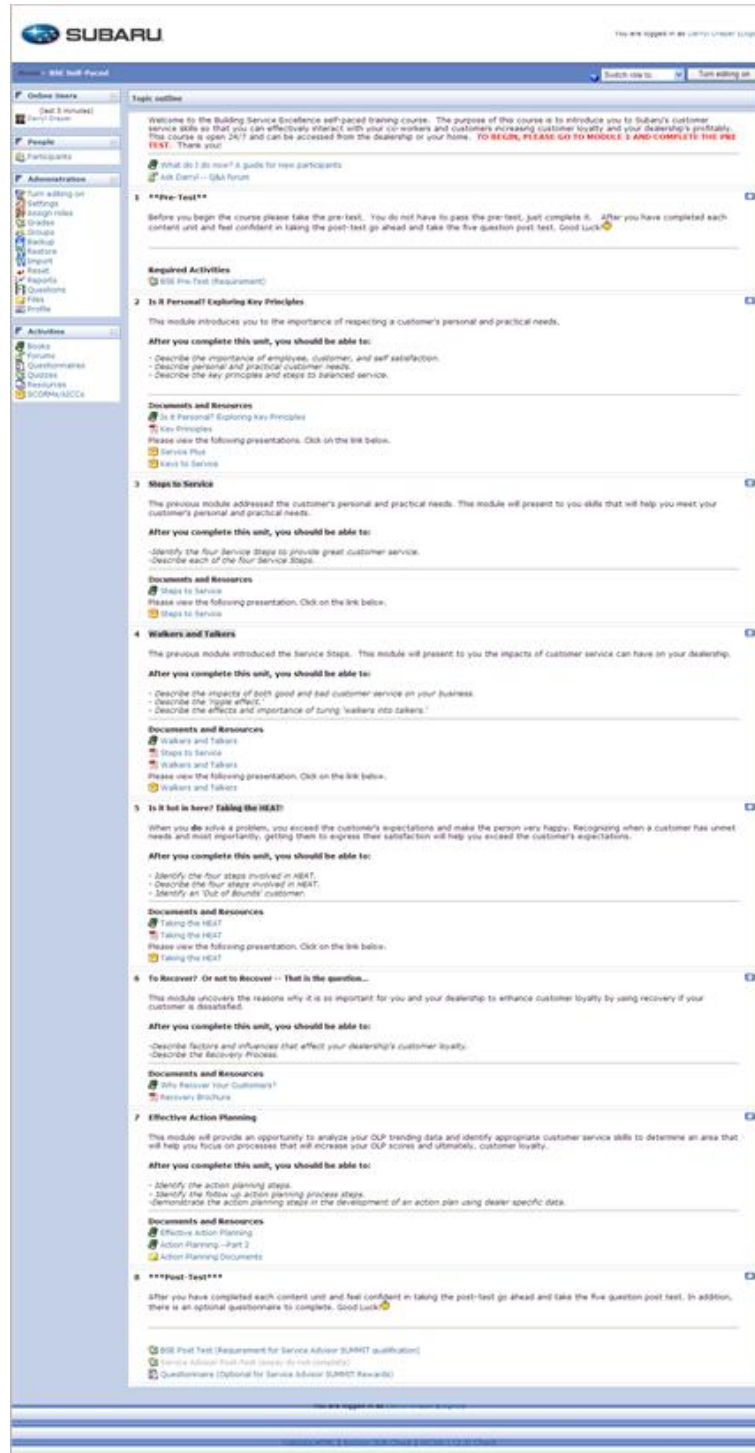
SCREENSHOT OF KNOWLEDGE BASED COP LEARNING ENVIRONMENT

The screenshot displays a web-based learning environment for Subaru. At the top, the Subaru logo is visible on the left, and a user login status 'You are logged in as Cheryl Linapari Student (return to my normal role)' is on the right. Below the header is a navigation bar with a 'Return to my normal role' button. The main content area is divided into several sections:

- Left Sidebar:** Contains navigation menus for 'People' (Participants, Online Users), 'Activities' (Assignments, Books, Forums, Glossaries, Questionnaires, Quizzes, Resources), 'Search Forums', 'Administration' (Grades), and 'Course categories'.
- Topic Outline:** The central area, titled 'Welcome to the Building Service Excellence online learning community...', provides an overview of the course. It lists 'Supporting Activities and Documents' such as 'What do I do now? A guide for new members', 'News Forum', 'Around the virtual watercooler', 'Idea Share - Best Practice Glossary', and 'Create your Profile settings'. It also lists five main topics: 1. Let's get acquainted!, 2. Demystifying Customer Service Skills, 3. To Recover? Or not to Recover -- That is the question..., 4. Effective Action Planning, and 5. Resource and Document Center. Each topic includes a brief description, a list of steps to follow, and a list of supporting activities and documents.
- Right Sidebar:** Includes a 'Calendar' for June 2008, an 'Events Key' for Global, Course, Group, and Other, a 'Recent Activity' section showing activity since Sunday, 22 June 2008, 02:28 PM, and a 'Feed Dealers' section with a 'KickApps' logo and buttons for 'Steal this!', 'More', 'Login', 'Upload', 'Join', and 'Search'.

Appendix C

SCREENSHOT OF SELF-PACED LEARNING ENVIRONMENT



Appendix D

IFENTHALER'S PRACTICABLE MOODLE TAXONOMY (2007)

<i>Feature</i>	<i>Short Description</i>	<i>Design Element</i>	<i>Instructional Function</i>	<i>Recommendation for Instructional Use</i>
Assignment	The instructor can provide written feedback or grade assignments submitted by the student online.	Instruction Learning	Assessment Feedback Self-reflexion	<ul style="list-style-type: none"> Assessment of knowledge increase Practice vs. exam assignments Collection of ideas and catchwords Intensify the communication among a group of learners Virtual group meetings with direct questions and answers Consultation hours for learners
Chat	The module allows a real-time synchronous discussion.	Learning	Communication	<ul style="list-style-type: none"> Get opinion on a specific topic Cluster learning groups Short exam
Choice	A question by the instructor with a choice of multiple responses.	Information	Information Communication Feedback	<ul style="list-style-type: none"> Provide different types of information to the learners
Files/ Resources	Uploaded files for download (e.g. text documents, spreadsheets, slides, sound, graphic or video).	Information	Information	<ul style="list-style-type: none"> Hub for collaborative learning Exchange of opinions and information Assistance on assignments Feedback on performance and learning progression
Forum	The module allows asynchronous discussions between students and the instructor.	Learning	Communication Cooperation Feedback	<ul style="list-style-type: none"> Dictionary for technical terms Connecting course terms with the content with hyperlinks
Glossary	Allows one to create and maintain a list of definitions.	Information	Information	<ul style="list-style-type: none"> Collection of information on a specific topic Large texts can be divided into smaller units Differentiated feedback functions/ questions and answers
Lesson	Content is delivered in an interesting and flexible way, including grading and questions.	Instruction Learning	Information	<ul style="list-style-type: none"> Self-assessment Exam and rating Repetition of learning content
Quiz	The module allows the instructor to design a set of short tests.	Instruction Learning	Assessment Evaluation Feedback Self-reflexion	<ul style="list-style-type: none"> Request expectation and experiences of learners Feedback/ Evaluation for instructors, learners, and materials
Survey	Standard surveys to gather data from students (e.g. ATTLS, Critical incidents, COLLES).	Information	Communication Feedback	<ul style="list-style-type: none"> Cooperation on joint projects Collate different information on a specific topic Brainstorming
Wiki	Allows authoring of documents collectively in a simple markup language.	Learning	Cooperation Information Self-reflexion	<ul style="list-style-type: none"> Complex problem solving Work through a sample solution of exams Feedback within a learning group
Workshop	Students are enabled to assess each other's projects in a number of ways.	Instruction Learning	Communication Cooperation Self-reflexion	

Appendix E

ESSAY ASSESSMENT POST TEST

Question # 1

Your Role You are a Service Advisor for a dealership. Your responsibilities include the following:

- Scheduling service appointments
- Writing Repair Orders
- Communication with Technicians
- Communication with Customers

Background The dealership is located in a growing suburban area. You are consistently scheduling service appointments two weeks in the future. There are two other Service Advisors who work in the Service Department with you.

The Situation One of the Service Advisors is out of the dealership due to a health issue. The Service Department is extremely busy with many customers waiting, and the phones are constantly ringing. A customer has been waiting for about 15 minutes. The vehicle was towed into the dealership. The repair will take approximately 3 hours to complete. The customer would like a loaner car for the day. There are no loaner vehicles available at the time.

How would you respond to the customer's personal and practical needs? Use the customer service skills presented in the course to write your story. Please incorporate your own experiences in your response.

Question #2

Your Role You are a Service Advisor for a dealership. Your responsibilities include the following:

- Scheduling service appointments
- Writing Repair Orders
- Communication with Technicians
- Communication with Customers

Background The dealership is located in a stable suburban area. You work in a busy shop. There is one other Service Advisor who works in the Service Department with you.

The Situation The Service Department is extremely busy with many customers waiting, and the phones are constantly ringing.

A customer who purchased two Subaru vehicles and has been a customer of your dealership for 8 years enters the shop with various vehicle concerns. The customer feels that Service Management and the Service Advisors have not worked to resolve his issues. In fact, the customer feels that the treatment he received over the past two years has gone downhill.

How would you go about recovering this customer? Please use some of the customer service skills presented in this course as well as incorporating your own experiences into your response.

Question #3

Your Role You are a Service Advisor for a dealership. Your responsibilities include the following:

- Scheduling service appointments
- Writing Repair Orders
- Communication with Technicians
- Communication with Customers

Background The dealership is located in a metro area. You work in a busy shop. There are three other Service Advisors who work in the Service Department with you.

The Situation The Service Department is extremely busy with many customers waiting, the phones are constantly ringing and the shop is down two technicians.

The customer brought his Outback in for an oil change and to have the air conditioning/heat checked. He explained to the Service Advisor that the temperature control seems to have two settings, warm and cold, for example, a temperature setting at 65 degrees produces cold air but any other setting produces warm air. The customer was told that the technician checked it out and could not duplicate the concern. The customer was doubtful that the technician performed the repair because the temperature settings still did not work properly. The Service Advisor informed the customer that if the problem persists to bring the car back to the shop.

The customer values his time and perceives that there was not an attempt to correct the problem or to communicate with him when the tech could find the problem.

How would you go about recovering this customer? Please use specific customer service skills presented in this course as well as incorporating your own experiences into your response.

Question #4

Your Role You are a Service Advisor for a dealership. Your responsibilities include the following:

- Scheduling service appointments
- Writing Repair Orders
- Communication with Technicians
- Communication with Customers

Background: The dealership is located in a growing suburban area. You are consistently scheduling service appointments two weeks in the future. There are two other Service Advisors who work in the Service Department with you.

The Situation: One of the Service Advisors is out of the dealership due to a health issue. The Service Department is extremely busy with many customers waiting, and the phones are constantly ringing. A customer arrived at the service shop for routine vehicle servicing. He felt that the Service Advisor was more interested in arguing than providing good customer service after attempts to up-sell was declined. The oil change took over 2 hours to perform. The customer was in the waiting room and was not notified when the car was ready. Upon arrival at the cashier desk, the customer reviewed the invoice and noticed he was overcharged, which resulted in a dispute to resolve. The vehicle was not returned to the customer washed and had grease stains on the floor mats.

How would you respond to the customer's personal and practical needs? Use the customer service skills presented in the course to write your story. Please incorporate your own experiences in your response.

Scenario # 5

Your Role You are a Service Advisor for a dealership. Your responsibilities include the following:

- Scheduling service appointments
- Writing Repair Orders
- Communication with Technicians
- Communication with Customers

Background: The dealership is located in a rural area. You work in a busy shop. There are two other Service Advisors who work in the Service Department with you. The Service Department is extremely busy with many customers waiting, the phones are constantly ringing.

The Situation: The Service Advisor was very rude, dismissive and unhelpful as he could possibly be. The customer had to go to the service manager who was much more helpful which resulted in the customer taking a day off from work so that she could make another trip to the shop. The customer is still not sure that all repairs were completely and properly done. There's something wrong with the car and she is not taking another day off to go down there again because she doesn't feel like dealing with them again. Overall, the experience was a very unpleasant. The customer appreciates Service Manager trying to make it better, but she feels that she shouldn't have had to go through that.

How would you go about recovering this customer? Please use specific customer service skills presented in this course as well as incorporating your own experiences into your response.

Appendix F

AD HOC ONLINE LEARNING READINESS SURVEY

Online Readiness Survey

1. Gender:

- Male
- Female

2. What is your region?

- MAR
- SCR
- SDC
- SNE
- GLR
- SWR
- NWR

3. Your age:

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-7

4. What is your level of education?

- High school graduate.
- 1-2 Years of college.
- 3-4 Years of college.
- Associates Degree.
- Bachelor's Degree.
- Master's Degree.

Other (please specify)

***5. How much experience do you have in the retail automotive industry?**

- 0-1 year
- 2-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21+ years

1. Learning Motivation

	Definitely NOT like me.	NOT like me.	Neutral.	Somewhat like me.	Most like me.
I like to set goals and deadlines for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to can keep myself on track and on time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a reason for taking online training courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to finish the projects I start.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not quit because things get difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 1. How are your organizational and time management skills?**

	Most definitely NOT like me.	NOT like me.	Neutral.	Somewhat like me.	Most like me.
I usually work in a place where I can read and work on training without distractions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work on completing training requirements outside of the work environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can ignore distractions around me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to spend XXX amount of time each week on training.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to keep a record of my training requirements and their due dates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to plan my work in advance so that I can adhere to deadlines.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People around me try not to distract me when I study.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to use email and other online tools to ask my classmates and instructors questions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 1. How are your technological skills?**

	Most definitely NOT like me.	NOT like me.	Neutral.	Somewhat like me.	Most like me.
I am pretty good at using the computer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable surfing the Internet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable with blogs, wikis, podcasts, YouTube, and discussion forums.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable with doing Internet searches, setting bookmarks, uploading and downloading files.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable with installing software and changing configuration settings on my computer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know someone who can help me if I have computer problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

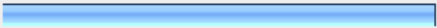

*** 1. What are your computer equipment capabilities?**

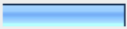






	Most definitely NOT like me.	NOT like me.	Neutral.	Somewhat like me.	Most like me.
My computer runs reliably on Windows, Vista or on Mac OS 10.4 or higher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a printer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am connected to the Internet with a fairly fast, reliable Internet connection such as DSL or cable modem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have virus protection software running on my computer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have headphones or speakers and a microphone to use if a class has a videoconference.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My browser will play several common multimedia (video and audio) formats.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix G

AD HOC ONLINE LEARNING READINESS SURVEY

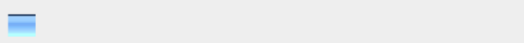
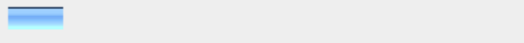
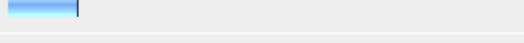
DEMOGRAPHIC RESULTS

1. Gender:			
		Response Percent	Response Count
Male		84.5%	175
Female		15.5%	32
<i>answered question</i>			207
<i>skipped question</i>			2

2. What is your region?			
		Response Percent	Response Count
MAR		23.6%	46
SCR		11.3%	22
SDC		11.8%	23
SNE		3.1%	6
GLR		15.9%	31
SWR		15.9%	31
NWR		18.5%	36
<i>answered question</i>			195
<i>skipped question</i>			14

3. Your age:			Response Percent	Response Count
18-24			2.9%	6
25-34			12.0%	25
35-44			18.7%	39
45-54			34.9%	73
55-64			28.7%	60
65-?			2.9%	6
			<i>answered question</i>	209
			<i>skipped question</i>	0

4. What is your level of education?			Response Percent	Response Count
High school graduate.			34.1%	70
1-2 Years of college.			30.2%	62
3-4 Years of college.			9.8%	20
Associates Degree.			9.3%	19
Bachelor's Degree.			17.6%	36
Master's Degree.			2.0%	4
			Other (please specify)	8
			<i>answered question</i>	205
			<i>skipped question</i>	4

5. How much experience do you have in the retail automotive industry?			
		Response Percent	Response Count
0-1 year		4.8%	10
2-5 years		10.5%	22
6-10 years		10.0%	21
11-15 years		13.4%	28
16-20 years		12.0%	25
21+ years		49.3%	103
		<i>answered question</i>	209
		<i>skipped question</i>	0

Appendix H

WHAT DO I DO NOW? INSTRUCTION GUIDE

Welcome to the Building Service Excellence Community Learning Course

Welcome to the Building Service Excellence online learning community. The purpose of this course is to provide you with opportunities to network with other dealership professionals who share similar interests and concerns by learning new skills, applying the skills on-the-job, and discussing customer service issues impacting your dealership organization without ever leaving your office or home.

What are the goals of this Learning Community?

This community-learning course is focused on experiential learning. There is a ‘traditional’ training component in the sense that there is a pre and post test and a series of “modules” that focus on customer service skills and the development of an action plan. However, the similarity ends there; the community is comprised of discussion activities where the content is primarily used as a resource. You learn to the extent that you engage in conversations, activities, tasks and social interactions. Take as little or as long as you like to complete the required activities, the community is always open.

Think about what you want to learn so that you can direct your own activities, ask productive questions, and propose relevant issues to the community. It is also important to join with an open mind so you can be surprised by what you learn as the experience unfolds.

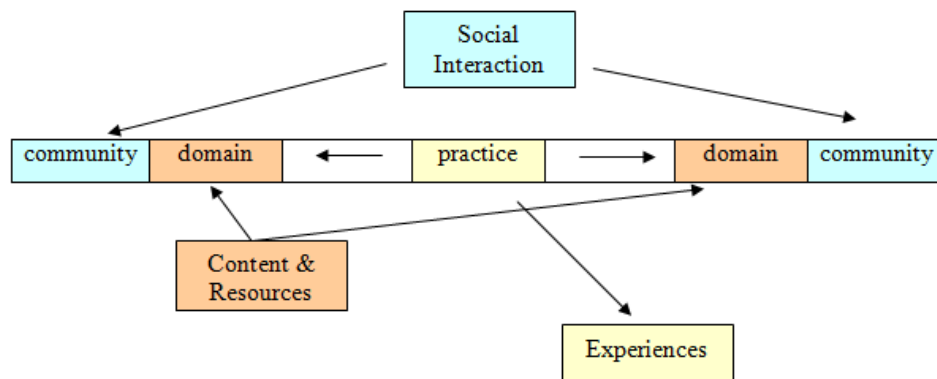
Who is in this Community learning course?

An important aspect of participating in the community-learning course is the opportunity to meet and get to know people from Subaru dealerships all over the United States. You will find a variety of people who are involved in the community. As you would expect, there is an instructor and other members like you who bring their own experiences to the group. But there are others as well. Because the Building Service Excellence Community Learning course is more of an open forum than a classroom, a community has formed around it as members from earlier groups that keep in touch with each other. The community is always open so even when you have completed the assignments and passed the post test, you are strongly encouraged to continuously interact with members of the community to collectively and individually build your knowledge base.

Participants

The Community Learning members are a key learning resource. They represent a variety of backgrounds, both culturally and professionally. Community members include: Dealer Principals, General Managers, General Sales Managers, Sales Manager, Sales Consultants, Service Managers, Service Advisors, Parts and Service Directors, Parts Managers, Customer Relationship Managers, and Business Development Managers.

Community Dynamics



What should I do before joining the BSE Community?

There are four main tasks for this preliminary time:

1. Familiarize yourself with the information in this document.
2. Log On to the SMART LMS to register for the Building Service Excellence Community Learning course.
3. You can either access the BSE Community through SMART or Subarunet.
4. Complete New User log in instructions and then access your personal profile to complete a personal bio, and upload a picture.

What does a typical visit look like as the community evolves?

This community builds content and resources. On a typical day, you will not go everywhere. Your visits would go something like this:

1. Login and review any new postings.
2. Check to see if there is any new community events scheduled.
3. Visit the unit section you are currently working through.
4. Contribute to the community issues.

Here are examples of the different types of units:

First Unit:

community	domain	←	practice	→	domain	community
Community Focus						
The goals are both social and technical this week. You need to familiarize yourself with elements of the Moodle interface, find out who is in the workshop, and complete your own profile, complete with a photo. Get a sense of who your fellow community members are by posting your own introduction as well as greeting others.						
Instructor: Darryl Draper						
Main Activities for this unit:						
<ol style="list-style-type: none">1. Login to Moodle interface and create your profile.2. Visit "Introductions" <u>discussion forum and post your introduction and welcome others.</u>3. Use the links provided in the "Interesting Website" discussion forum or search the web on your own to share your Interesting article or website with the group.						

Main Activities this week

This week we will work in the Social and Activity Discussion Forums. Please take some time to explore these critical areas of the community.

In the **Let's Get Acquainted discussion forum** please introduce yourself. Don't be long winded here. There are many of us and we all want to read about everyone. One or two short paragraphs are fine. Please include the following information:

1. Your Name and your Dealership's Name
2. Your position at the Dealership
3. Add a picture of you and/or your work environment
4. How long you have been in your position
5. How long you've worked in the automotive industry
6. List one customer service challenge you have (don't name names!)
7. List one thing you would like to learn as a result of this course

If you have more to say about yourself, you can place it in your biography located on your profile page, better yet, if you have your own web page, paste the link here or use the **blog** feature in the community.

Crunched for time? Login to the Moodle interface, set your profile, and post your introduction in the **Let's Get Acquainted discussion forum**.

Second Unit:						
community	domain	←	practice	→	domain	community
Domain Focus						
The second unit of the community is the most content dense. Use the content as a resource as you interact with others in the discussion forums. The primary goal for the second unit is to participate in the skill specific discussions by reviewing the loyalty alerts then employing key customer service skills to positively impact customer interactions. You are encouraged to ask questions, share your experiences and insight to agree on how best to tackle difficult customer scenarios.						
Instructor: Darryl Draper						
Main Activities for this unit:						
<ol style="list-style-type: none">1. <u>Posting your responses to the Sales or Service Loyalty Alert Discussions</u>2. If needed, access the WebEx pre-recorded modules 1-5 (which are the Recovery Modules) and content.3. If you feel that a member's post was particularly helpful to you, go ahead and rate the post.						

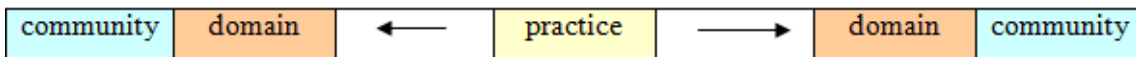
Domain discussion threads: This space includes a fixed set of discussion “scenarios” and each community member is required to contribute to the discussion.

To participate: Read each job specific (sales or service) loyalty alert discussion thread. Share your experience, ask questions, propose answers and contribute your insights.

Leadership Role: Not everyone is an expert, and not everyone is an expert in everything. Most likely you have found an area of expertise, like handling difficult customers effortlessly. Share your expertise with others. If you feel you are an expert in a particular area, please feel free to take on a leadership role within the community.

Crunched for time? Focus your time and effort on the Loyalty Alert Discussion Forums by responding to scenario questions and responses from others. As a courtesy to others, let your community members know that you are in a time crunch.

Third Unit:



Practice Focus

The goal of the practice focus is to initiate practical discussions, ideas, activities and collaboration of loyalty alert discussions as well as real time customer interactions you are encountering at the moment. The discussions started here will be our focus in the community and will evolve by improving on ideas.

Instructor: Darryl Draper

Main Activities for this unit:

1. Loyalty Alerts – apply personal experiences to discussions.
2. Pose real situations for community discussion.
3. Contribute ideas to community for discussion and improvement.
4. Engage with subject matter experts.

Community learning allows members to interact in joint activities to build shared knowledge in a specific domain. In our community, we will focus on three types of activities: story telling, loyalty alert scenarios, and the development of dealer specific action plans.

Story telling: Stories are central to community learning. They convey knowledge in concrete form. They create a sense of belonging. And they provide recognition to the members as contributors to the community’s collective knowledge. Examples of stories include your personal and professional experiences, whether a success or failure.

Loyalty Alert Scenarios: Members help each other with actual problems they face in their own work. It builds community because it makes participation valuable to members in a very tangible fashion. And it builds shared knowledge because participants can share what they know in a concrete fashion. Authenticity is the key here! Present real situation and let us explore the issues and directions that they might take us, as we get “hands on” with the community. Examples of scenarios include a problem faced by you, or objections you are facing from customers.

Action Plan development: The community generates ideas that are worth setting in motion. For example, addressing specific issues for improvement, benchmarking, analyzing issues, and idea improvement are appropriate for action plan development. The action plan should have a personal meaning for you and should reflect your own individual learning goals.

Fourth Unit:						
community	domain	←	practice	→	domain	community
Practice Focus						
The goal of this practice focus is to provide constructive feedback of the loyalty alert discussions and the Recovery unit discussion thread. The main purpose is to build upon the ideas of others to develop best practices for the community. Much of the discussion will center around summarizing, elaborating and building on ideas.						
Instructor: Darryl Draper						
Main Activities for this unit:						
<ol style="list-style-type: none"> 5. Loyalty Alerts – apply personal experiences to discussions. 6. Contribute to the improvement of ideas. 7. Summarize best practices. 8. Engage with subject matter experts. 						

Story telling and loyalty alert scenarios will be summarized and the discussion initiator will respond to community member inquiries.

Action Plan development in progress using authoritative sources such as subject matter experts, OLP and Stellar Performer website, and discussion based knowledge.

Crunched for time? Focus your time and effort on relating your personal experiences to the group as well as improving on others' ideas. As a courtesy to others, let your community members know that you are in a time crunch.

Appendix I

PARTICIPANT ROADMAP FOR LOGIN

Building Service Excellence Community Learning Course

Log in Instructions:

1. Click on the link to access the site:
<http://subarutraining.com/>

You are not logged in. (Login)
English (en)

SUBARU

Available Courses

[Building Service Excellence](#)

Click on 'Building Service Excellence'

Welcome to the Building Service Excellence online learning community. The purpose of this eight week course is to provide you with valuable opportunities to network with other dealership professionals who share similar interests and concerns by learning new skills, applying these skills on-the-job, and discussing customer services issues impacting your dealership organization without ever leaving your office or home.

Calendar

July 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

2. Click on 'Login as a guest'

You are not logged in. (Login)
English (en)

SUBARU

Subaru > Login to the site

Returning to this web site?

Login here using your username and password (Cookies must be enabled in your browser)

Username (darry)

Password

Login

Some courses may allow guest access

Login as a guest

Forgot your username or password?

Yes, help me log in

Is this your first time here?

Hi! For full access to courses you'll need to take a minute to create a new account for yourself on this web site. Each of the individual courses may also have a one-time "enrolment key", which you won't need until later. Here are the steps:

1. Fill out the [New Account](#) form with your details.
2. An email will be immediately sent to your email address.
3. Read your email, and click on the web link it contains.
4. Your account will be confirmed and you will be logged in.
5. Now, select the course you want to participate in.
6. If you are prompted for an "enrolment key" - use the one that your teacher has given you. This will "enrol" you in the course.
7. You can now access the full course. From now on you will only need to enter your personal username and password (in the form on this page) to log in and access any course you have enrolled in.

Create new account

3. Type in 'outback' in enrolment key field, and then click 'Enroll me in this course' button.

SUBARU You are currently using guest access (Login)

Subaru > Courses > Login to BSE

Building Service Excellence

Welcome to the Building Service Excellence online learning community. The purpose of this eight week course is to provide you with valuable opportunities to network with other dealership professionals who share similar interests and concerns by learning new skills, applying these skills on-the-job, and discussing customer services issues impacting your dealership organization without ever leaving your office or home.

This course requires an 'enrolment key' - a one-time password that you should have received from your Teacher

Enrolment key:

Enrolment key is: outback

SUBARU You are currently using guest access (Login)

Subaru > Courses > Login to BSE

Building Service Excellence

Welcome to the Building Service Excellence online learning community. The purpose of this eight week course is to provide you with valuable opportunities to network with other dealership professionals who share similar interests and concerns by learning new skills, applying these skills on-the-job, and discussing customer services issues impacting your dealership organization without ever leaving your office or home.

This course requires an 'enrolment key' - a one-time password that you should have received from your Teacher

Enrolment key:

Click this button

Darryl C. Draper

CURRICULUM VITAE
Email: draper.darryl@gmail.com
Phone: 941-445-3620

EDUCATION

Ph.D. - Penn State University, State College, PA – 08/2010 - Instructional Systems
M.Ed. – Pennsylvania State University, State College, PA – 12/1994- Instructional Systems
B.A. – Temple University, Philadelphia, PA – 05/1991 – Art History

ACADEMIC EXPERIENCE

Penn State University – Adjunct Instructor (2007 – 2008) - College of Education, Great Valley Campus, PA
Penn State University – Adjunct Instructor (2007 - Present) – World Campus

PROFESSIONAL EXPERIENCE

Instructional Designer (2002 – 2009) – Subaru of America, Inc. Cherry Hill, NJ
Training Consultant (1993 – 2002) – Philadelphia, PA/Detroit MI

CONSULTING EXPERIENCE

Chief Learning Organization Consultant (2010) Jacksonville, FL
Online Course Design and Development (2002-2009) - Subaru of America, Cherry Hill, NJ
Instructional Designer (1993-2002) – Ford Motor Company, Detroit MI

SELECTED PUBLICATIONS (* peer reviewed)

*Land, S., Draper, D., Jordan, R., HSIEH, H., Ziyang, M., Smith, B. 2009. “An Investigation of Knowledge Building Activities in an Online Community of Practice at Subaru of America”. Performance Improvement Quarterly. Fall 2009.
*Moller, L., Draper, D. 1996. “Examining the Viability of Distance Education as an Instructional Approach.” The Journal of Continuing Higher Education 44, no. 4:12-21.

SELECTED PRESENTATIONS (* peer reviewed)

*Land, S., Draper, D., Jordan, R., HSIEH, H., Ziyang, M., Smith, B. 2009. “An Investigation of Knowledge Building Activities in an Online Community of Practice at Subaru of America.” Association for Educational Communications and Technology conference, Orlando, FL
*Draper, D., Amason, R. 2008. “Communities of Practice for Professional Development of Higher Education faculty and administrators: Bridging the divide” Roundtable Association for Educational Communications and Technology Conference, Orlando, FL.
*Draper, D. 1997. Effective Interactive Satellite Facilitation Skills. Association for Educational Communications and Technology conference, Albuquerque, NM.
Draper, D. 2007. “Communities of Practice Learning Environments.” Pennsylvania Distance Learning Association, Philadelphia Chapter, Great Valley, PA